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Cinematographer
THE MOTION PICTURE CAMERA MAGAZINE
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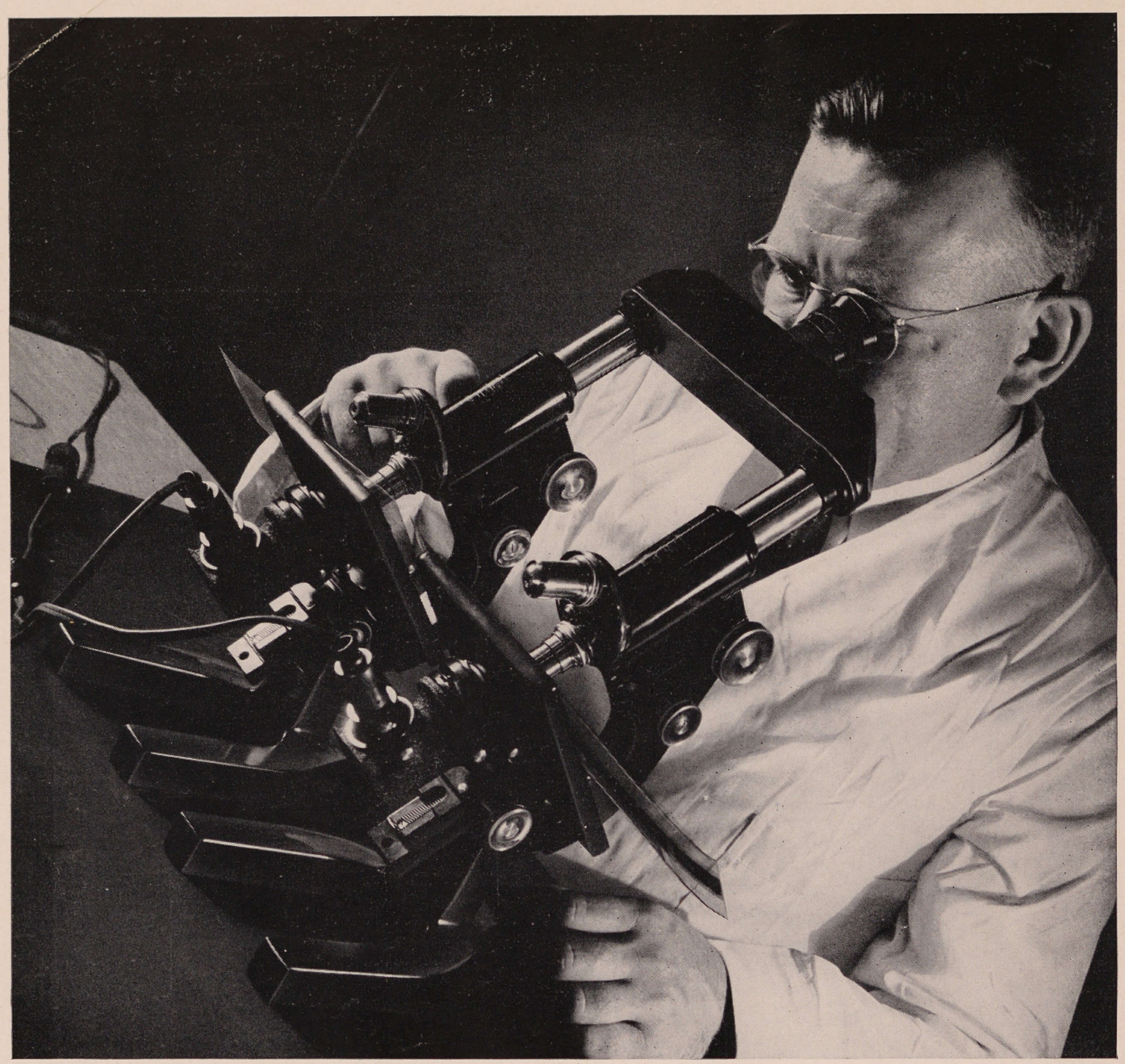
August
1943



Seeing double...for a single reason

THE chemistry of film manufacture embraces many activities. The chemist pictured here is using a double microscope in comparing film emulsions at the Du Pont Research and Control Laboratories.

In "seeing double" he is making a visual comparison of the emulsion grain in two specimens of Du Pont Motion Picture Film. One specimen is a control sample already approved. The other represents a new emulsion, and the silver grains of each specimen are compared. The control emulsion thus provides a basis of measurement for the other.

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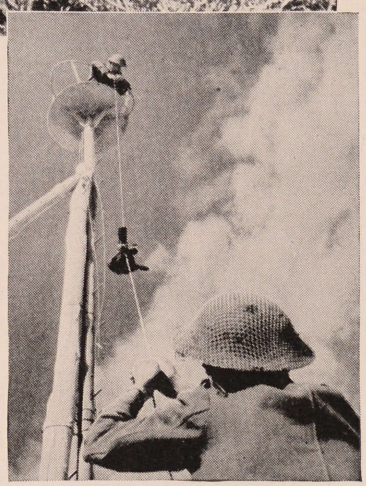
←

3. The man and his weapon. He fights alongside his buddies as a regular soldier—and does the extra job of filming battle actions. Many of these men have long civilian experience as news photographers or in British and American film studios.



All pictures courtesy of Official British War Film "Desert Victory," released through *20th Century-Fox.*

MONTHS before Tunisia . . . before Casablanca fell . . . Eyemos had already helped to win the "DESERT VICTORY." On earlier battle fronts, Eyemos, in skilled hands, had filmed the strategies and tricks and methods of the enemy . . . had recorded ways to meet and squelch those tricks.

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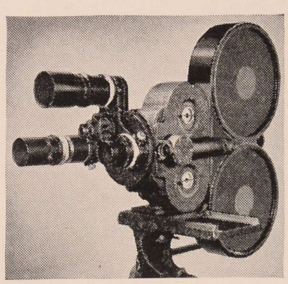

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AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

VOL. 24 AUGUST, 1943 NO. 8

CONTENTS

The Front Cover

This month's cover is a shot of players and crew on the set of "The Girl From Leningrad," a Gregor Rabinovitch production, with Eugene Frenke as associate producer, Fedor Ozep director, and John Mescal, A.S.C. director of photography. Left to right front row, Dialog director Don Brodie (with script), Director Ozep, Katherine Frye, star Anna Sten, Mescal. Standing, left to right, Hank Kessler, assistant director, Archie Lowrance, grip, Pliny Goodfriend, operating cameraman, Jack Kenny, assistant cameraman, Guy Gilman, electrician and Alexander Granach, who plays an important role. The still was made by James Doolittle.

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DONALD SAYS:
"BUY BONDS,
DON'T
DUCK
YOUR DUTY."

Illustration
from Walt Disney's Feature,
"VICTORY THROUGH AIR POWER"
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best-selling book

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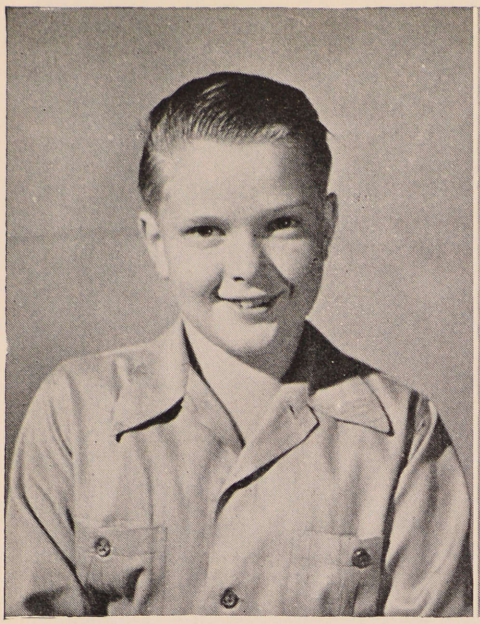


Fig. 1

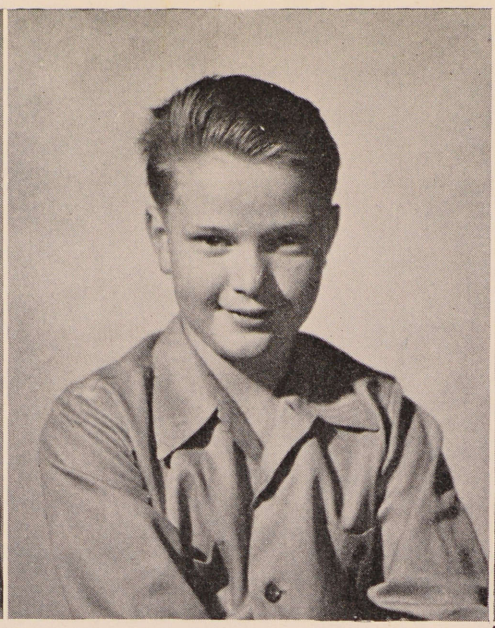
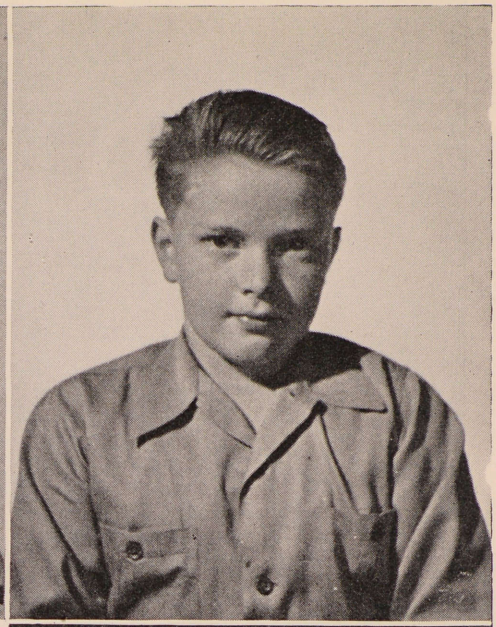


Fig. 2



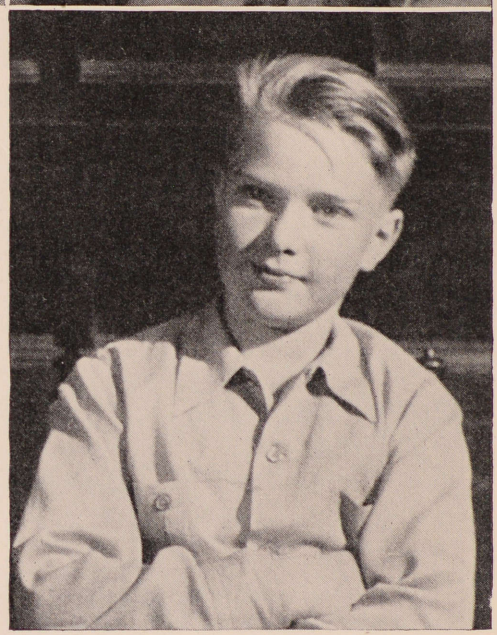


Fig. 3 (top), Fig. 4 (bottom)

Illumination On Walls

By KARL FREUND, A.S.C.

WALLS of one type or another form the background for a large majority of the scenes a cinematographer is called upon to shoot. These walls may range in tone from something very dark that just soaks up the light, to an obtrusive white that is very hard to hold down.

The wall, forming as it does a background, is strictly of secondary importance in a scene. Nevertheless its influence on the effectiveness of the scene is quite marked. For this reason the illumination on it must be very carefully arranged by the cinematographer.

I have found it advantageous to always consider how the eye will adapt itself to any combination of illumination levels such as that at the position of the principal subject and that on the wall behind the subject.

For example, suppose the subject is to be normally lit. The background is a medium tone which should show up darker than the subject. This is probably the most general type of arrangement. (See Fig. 1.) In such a setting the eye is naturally directed to the principal subject. In this case, the eye adapts itself to the level of illumination prevailing on the subject. The background in this case being relatively neutral in tone does not act to modify the eye adaptation.

For such a scene I use my Norwood meter in the normal manner, at the position of the subject. If I want to use a lens aperture of f:2.3, then I bring up the lights on the subject until the meter indicates f:2.3. This takes care of the principal subject. Then I stand back and note visually the relatively brightnesses of the subject and the background. When it looks right visually, then we are ready to shoot, because the camera will see the scene in the same balance the eye sees it.

Another type of scene is one in which the walls are to appear lighter than the subject. (See Fig. 2.) This sort of a scene is more in the nature of an effect-lighting. It is not encountered as often as the first type of scene described above. However it can be very effective photographically, but great care must be used in the illumination arrangement.

In such a scene the eye is again naturally directed to the principal subject. The eye starts to adapt itself to the illumination level of this subject, but is now considerably influenced by the greater brightness of the background obtruding itself. When the eye has become adapted to the illumination level of the background it will be found that the subject now *appears* somewhat *darker* than it did under the conditions described for the previous case. It is of course desirable to have the camera record this changed visual appearance. So a modification of the basic practise with the Norwood meter is followed.

In this case the meter is again used at the position of the principal subject. In order to give the subjective impression of a darker subject, a differential is set up between the illumination-level on the subject and the lens aperture setting. I find it most convenient to accomplish this by changing the "film-speed" mattes in the meter. For example, suppose the background wall is to be moderately brighter than the subject. For such a scene I estimate that a differential of about one-half an f-stop would be appropriate. I am using film with a speed of Weston 32 for interiors. So for this scene, in order to achieve the ½-stop differential, I take out the No. 32 matte and put in the No. 50 matte.

Continued on Page 306)

Commentary-Writing For Documentary Films

By EDUARD BUCKMAN

HOWEVER brilliant may be the cinematography in a color documentary, however natural the "performances," or however clever the cutting, much of the film's final effect depends on the commentary. If there is one thing in films for which there seems no handbook available, that thing is commentary. It is more than important: not because it can save a film, *but because it can so easily ruin what otherwise would be a clear and interesting one.* When writing commentary, we must constantly remember that pictures, if good, themselves register far more quickly and sharply than spoken words. Words accompanying a color documentary require the most careful handling, for color invariably reveals even more to an audience than does black-and-white. Color film commentaries have deliberately to be underplayed, kept as a reinforcing complement. Further, as any good color film is built on color sequences, each with its own rhythm, the narrative should catch this rhythm and never lose it, changing, easily and imperceptibly, whenever the sequences do.

Silence, it has oft been said, is golden. I believe in a color film that it is not only gold but can take on all the colors possible in Kodachrome because it adds immeasurably to each! We writers love to talk. Most of us once thought a two-reeler meant twenty minutes for us to have our continuous say. We always conveniently forgot that a film, being pictures after all, was able to say far more than we ever could. Remembering this, we should now become as frugal in our remarks and as simple in language as possible. Our sentences, to have fullest effect, should be divided by periods of silence when the scenes can register their color meaning undiluted, intensified, if anything, by appropriate music.

The function of commentary, as I see it, is to provide details which further a complete understanding of the picture on the screen, not merely reiterate what it already shows. Take, as an instance, the time element. Often this can be done filmically, but sometimes it is not practical and the hour is not absolutely set by the color or action on the screen.

When, in our fishing film, we faded in on the men working over their lines under brilliant sunlight, our commentary ran: "It is almost noon. The men have been working since three. Now they are baiting up for the second time." That told what the men were doing, when and why, things which the average, non-fishing audience would not be able to gather from the scene.

The *how* of the operation was self-evident, and the commentary did not need to tell how the lines and hooks were attached, how the bait was put on, and how skillful the men were at the work: these, the picture did. The commentary continued: "Each two men have 55 lines—over 3,000 hooks to bait with substantial hunks of frozen mackerel from the 15,000 lbs. on ice in the vessel's hold." This, as I see it, is the function of the commentary: to supply any data the film can't itself fluently project. Indicating 55 lines, 3,000 hooks and 15,000 lbs. of bait lying on ice in the hold, would have been filmically uninteresting and, in the case of the bait, photographically difficult.

One of the most effective ways to use commentary is in counterpoint. I can't word it better, though I know it sounds a bit highbrow that way. What I mean is that often we want to emphasize something which the picture implies but doesn't show, or else we want to divert the audience's attention, in part, away from the picture and so soften the effect on the screen.

In our fishing film I think a perfect example of the first type is where the fishermen are in the dories. We were shooting in what obviously was summer weather, and the men were apparently hauling up fish effortlessly. But the work actually was hard and back-breaking. There are three miles of line to pull aboard. Further, what gives the scene point is that the men do it the year round, all through the winter months when the Atlantic is chill and cold. To give the work its fullest documentary meaning, this had somehow to be indicated. And so while the film flows on in its obvious summer colors—fishermen hauling fish over wheel, close-up; fisherman's face, close-up; fisherman hauling fish into dory, medium-shot; bottom of dory piled with fish—the commentary (and in this particular sequence commentary is imperative because the scenes have an inherent similarity) was made to say: "To haul steadily, over the wheel, with bare hands, the three miles of fish-filled lines, is hard, hard work. Though it is not so bad in summer. It is in winter, in piercing cold, in sleety squall, in 'thicka-fog,' that the fisherman's hours in the dory are most cruel."

I can think of one particular spot in the fishing film where we wished to take the audience's mind off of just what was happening on the screen, and commentary had to be used to do it. This was in the shark sequence. The men had lassoed the killer fish and hauled it up. Then they proceed to cut it in two. They hate these sharks which ravage the cod, continually cut the baited lines. And so the men savagely kill the shark by severing head from body. In the film, the colors of the guts as exposed by the knife are superb. It is paradoxical that such a brutal dissection should have had such breath-taking pictorial beauty.

That was why we felt the film would lose if it were not included; but once we included it, we had to use commentary to soften its reality, and we decided

(Continued on Page 310

WILLIAM STULL

IT IS with deep regret that we inform the readers of this magazine that William Stull, its editor for the past two years, died on July 10th, after a five-day siege of pneumonia.

To this writer, Bill meant something more than just a friend and a brilliant editor and technical writer. He seemed almost like a son, for it was I who discovered Bill and started him on his career. It was back in May, 1929, that I met Bill. I was then editor of this magazine. Bill was a shy, retiring, young chap with a vast amount of technical knowledge. I asked him why he didn't write a piece for the magazine. He said he didn't believe he could write well enough. I finally persuaded him to try. From the start, he showed brilliance, and he went on from there to become perhaps the outstanding writer of technical articles in Hollywood.

It was only logical that, after writing for the American Cinematographer for many years, he eventually became its editor. And he won countless friends in that position. The world of cinematography has lost a truly magnificent reporter of its achievements in the passing of Bill, the magazine lost a great editor, the cameramen have lost a real friend who was the first to give them recognition, his wife and two children have lost a wonderful husband and father, and his mother a devoted son.

One of the peculiar twists of life is the fact that I, who started Bill on his writing career, should have the honor of jumping in and completing his work in presenting this issue of the magazine to its readers. If the contents of this issue do not measure up to those of the issues of the past, you will know it is because Bill is gone.

—HAL HALL.

The Russian Influence In Hollywood

By PETER FURST

THE amount of Russian stories in production or preparation in Hollywood today may seem staggering to outsiders and may even prompt some to mutter dark things about "Hollywood plots" and "destructive propaganda." Indeed, there are some who would have Hollywood make only anti-Russian films, but that is neither here nor there.

It is true that there are many Russian stories in the making. But, then of course, there are a good many dramatically inspiring things happening on the 2000-mile Russian front every day, and there are few movie makers who cannot recognize good melodrama when they see it. Besides, Hollywood has made a good many screen epics around fronts that are not half as vital to the Allied cause as is the bitter Soviet-Nazi struggle from Leningrad to the Black Sea. Remember the many commando stories and the flood of Norwegian films which hit the nation's screens not so long ago?

Actually, when you examine things carefully, there aren't so many Russian films in Hollywood at all. In addition to "Mission to Moscow," there is the more recent "Boy from Stalingrad," which has been shown in New York and has aroused a good deal of comment there although it did not hit the first-run houses on Broadway but only some small out-of-the-way theaters. Samuel Goldwyn's production of Lillian Hellman's "North Star," with Anne Baxter and Dana Andrews, is now completed. The film will be unusual insofar as the only accents in the film are those of German soldiers, while most other Hollywood versions of Russian stories have utilized as many foreign-accented actors as possible. Miss Hellman explains that she wanted to make her story not only to be completely authentic down to the smallest detail, but at the same time applicable to the American scene. She wanted American audiences to be able to identify themselves easily with the Russian peasants and fighters on the screen and thought that if these peasants had foreign accents, the average theatergoer would not be able to feel himself at one with his Russian ally on the screen. Therefore, only men and women with American accents were cast in the film and those with accents who had hoped that this film would give them their big chance were bitterly disappointed. Almost everyone connected with the picture is American: Anne Baxter, as a young Russian peasant girl; Dana Andrews as a Red aviator; Jane Withers as a misunderstood young village girl; Walter Brennan as a farmer; Walter Huston as a Soviet scientist; Lewis Milestone, the director and James Wong Howe, A.S.C., the cameraman. Even the Germanic-looking Eric Von Stroheim is an American citizen. Stroheim, incidentally, has the curious role of a German doctor who despises the Hitler gang, yet does their dirty work in Russia and who is shot by the Russian scientist Walter Huston, because, as Huston says, "those who do the work of Fascists and yet despise them, they are the real danger."

The really memorable lines, however, are spoken by Anne Baxter at the end of the film: "Wars do not leave people the same. All people will learn that, and come to see that wars do not have to be. They will make this the last one, a free world for all men. The earth belongs to us, the people, if we fight for it. And we will fight for it."

M.G.M. has completed "Song of Russia," R.K.O. is producing "Revenge," and a new outfit, R. & F. Productions, releasing through United Artists, is working on the American version of Artkino's "Girl from Leningrad." The latter, too, differs from the usual run of Russian stories though for different reasons than Goldwyn's "North Star." "Girl from Leningrad" is not a story of guerillas or soldiers but of women at war with the enemy; Soviet nurses in a field hospital on the Leningrad front. Both the director, Fedor Ozep, and the star, Anna Sten, have had ample experience with Soviet movie technique since both have worked on Russian films before coming to the United States.

These, and the other war pictures completed or in production, have of course, left their indelible mark on American cinema production, and this certainly is not meant politically as some of the isolationist senators and the critics of Hollywood in the editorial offices of certain newspapers would have people believe.

Perhaps one of the most important aspects of this influence is that the producers have to compete with Soviet films in portraying Russian life under battle

conditions. Since Russian films have always—ever since the revolutionary "Potemkin"—been famous for their realism, producers of the American versions of Soviet life are forced to take on some of that realism. One has only to go and see a fairly good Russian movie such as "Diary of a Nazi" to realize immediately where it is that Hollywood has always fallen short in its presentation of the more violent phases of life. What has been overlooked in even the most recent of our war films is certainly not technique—Heaven only knows that ours is the most perfected in international film history—but the irrevocable fact that the American cinema-going public, long used to the often brutal realism of the newsreel coverage of this war, cannot react sharply any more to death, not when it is presented in a beautiful studio sound stage setting, with soft lighting and camera work and makeup which tend to flatter the actor's physiognomy even in death. It isn't that the American movie-going public has become calloused and brutalized, but simply that we have become war-conditioned. We know now what war and death look like, and we know that it is not like their movie versions.

We are used by now to realism in its extremest forms. We have seen what a fire can do to an entire city and what a sailor looks like after he has spent sixty days on an open raft. We know now that a man who has been hit by a fifty-caliber machine-gun slug or a piece of shrapnel does not die quietly, sinking slowly to the ground and whispering last messages into the ear of the nurse he loves or his comrade. We know that he bleeds and that he screams. We don't have to see that on the screen of course—as a matter of fact, we won't. The Hays Office takes care of that.

But we don't have to see that. All that is really necessary is that the movie soldiers look like real soldiers, that the movie workers look like real workers, that the movie towns and the movie battlefields look like real towns and real battlefields.

The Soviets never had to worry about that sort of thing. They are used over there to a hard eventful life. And despite that they have never looked for "escape" from their daily troubles. On the contrary, the Russians asked that their struggle be portrayed faithfully in the Soviet pictures. And let no one mutter "dictatorship" and "they were forced to see that sort of stuff." People usually find a way to express their feelings about movies—mostly by staying away from them in droves, regardless of high pressure publicity campaigns, or government appeals.

Hollywood, to a great extent, has caught on to that. The moviemakers realize that despite the urge to seek escape, workers and soldiers don't want to go to a movie theater and sit through the antics of the idle, the sophisticated, the carefree. They want to see something of their struggle portrayed on the screen and be spurred on by their own efforts. They want to be able to look at a picture and come out of it, feeling: "Gee, we guys are certainly doing a great job, let's go and get on with it!" There is nothing like a little applause to spur on the actor. The Russians realized that and gave him that applause.

It is interesting to note that while Russian stories, producers and directors invade the Hollywood scene, they turn to the Hollywood cinematographers to put the stories on the screen. Russian technicians and cameramen are not brought here by the Russian producers. Our American cameramen have the happy faculty of being able to thoroughly understand the wants of any type of producers, and can photograph the mood of the Russian story just as readily as the American. Right now John Mescall, A.S.C., is handling the photography on "The Girl from Leningrad," which has Russians producing, directing and acting in the film. Director Fedor Ozep is enthusiastic about Mescall. "No cameraman in Russia ever grasped my ideas any better than Johnny," he told this writer.

Top is a scene from "The Girl From Leningrad" showing Anna Sten reading to a group of wounded soldiers in a field hospital. Second picture on this page is another scene from "The Girl From Leningrad" showing Miss Sten as a Russian nurse attending Kent Smith, who plays the role of an American aviator. Bottom picture is Irish Mary Lou Harrington as she appeared in the role of a Russian girl in "The Boy From Stalingrad." On opposite page is a scene from "North Star." Samuel Goldwyn is producing "North Star." "The Girl From Leningrad is a Gregor Rabinovitch production, with Eugene Frenke as associate producer.

★

Barbara Sanwyck in scene from "Lady of Burlesque."

Burlesque In Swing

WITH 98 per cent of the scenes for Hunt Stromberg's "Lady of Burlesque" interior shots within a theater, and most of the principal players working in most of the scenes, John LeRoy Johnston, Stromberg publicist, watched still photography with an eagle eye.

Since most of the backgrounds were static, Johnston insisted that still photographers James Doolittle and Fred Parrish keep production stills active, unposed and full of swing. As a result the final set of production stills contained more 4x5 grab shots than 8x10 posed ones. Even a few Ikon 2x2⅛ negatives made their way into the set of action "selling" stills. Nearly all the stills used in the advertisements for this motion pictude were the action shots.

Johnston for years has contended that still photographers should shoot more action shots of the outmoded posed variety. An advertising artist himself, before he entered the film studio publicity field, Johnston knows what is needed for good selling art. As a matter of fact, he maintains that among the amateurs the best pictures they make are also action.

The five photographs shown on these two pages were shot by Doolittle and Parrish during the filming of "Lady of Burlesque," and all are action. All have life and sparkle which could not be obtained in posed shots.

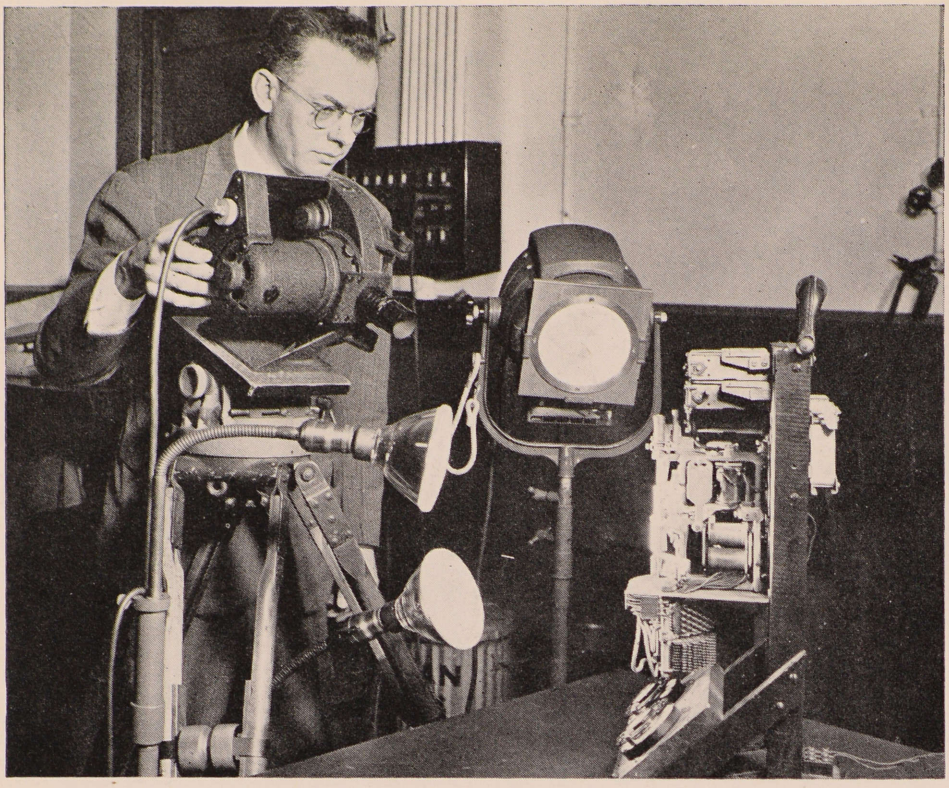
Upper left on this page is shot of Pinky Lee, Michael O'Shea and Barbara Stanwyck doing a snappy dance routine. It was a Parrish shot from floor line.

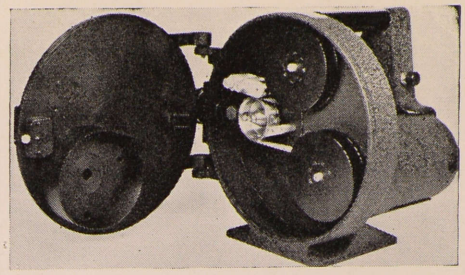
Lower right is shot of Miss Stanwyck fighting with a policewoman. It was made by Doolittle.

Center right, Miss Stanwyck concludes a comedy blackout called the "pickle persuader," with a slap that took O'Shea off his feet. It was made by Doolittle.

Upper right shows Gerald Mohr in the midst of a little fistic action that could not be obtained by a pose. Doolittle made it.

On page 290 is Miss Stanwyck dancing to the tune of "Take It Off the E String, Play It on the G String," a highlight of the film.





Left, camera in operation.
Above, Fig. 4.

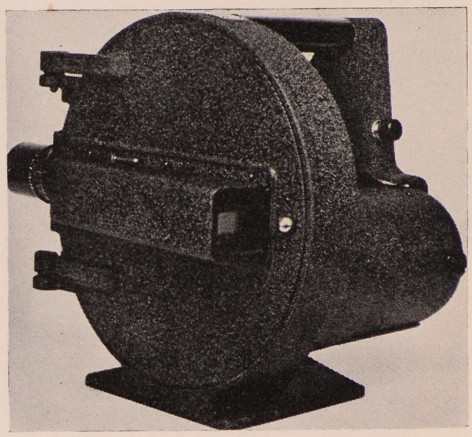
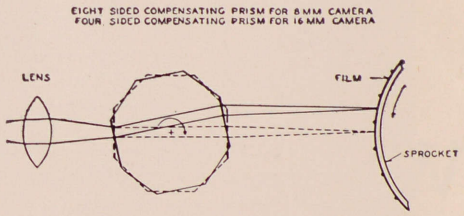


Fig. 3.

The New Fastax High Speed Camera

By C. L. STRONG



Optical System Schematic
Fig. 5

OUT of a desire to obtain better performance of telephone equipment has come a new high-speed motion picture camera, capable of speeds up to 8,000 frames per second. Designed by Bell Telephone Laboratories in New York and manufactured by Western Electric, the new camera has already found a number of applications among war contractors whose engineering problems include the design of fast moving parts or the analysis of high speed action.

The camera, which has been given the name "Fastax," is the result of many years' search for a high speed analytic tool for the engineer. Early attempts with non-intermittent films drives (the intermittent movement is limited to speeds of about 250 frames per second) resulted in the well-known Eastman-ERPI camera, capable of recording about 2,500 frames per second. Simply designed, the camera was well suited for the detailed study of mechanical cycles. Timing of motion in the subject could be determined to the thousandth part of a second from the picture of the special Western Electric split-second clock photographed on the edge of each frame.

The top speed of the Eastman-ERPI camera, however, was still too slow for many studies the telephone engineers wished to undertake. For example, they wished to find out why a certain type of electrical relay used in telephone circuits developed poor contact conditions resulting in improper circuit operation. Again, there were such fast moving operations as the dial central office switching devices, movements so rapid that it is next to impossible to see by visual examination just what is happening during the switching cycle.

The result of the search of these engineers for a camera capable of sufficiently high speeds to study these and similar problems is the Fastax. Rugged, small and compact, complete in a single case, the Fastax has proved itself invaluable as an aid to telephone research.

The camera does not look too dissimilar to a conventional motion picture camera. Two models are available which make pictures respectively of the standard 8mm and 16mm sizes. In each model either 16mm or the so-called "double-eight" film may be used. The film comes off the 100-foot supply reel at the top (Fig. 4), under an idler, around the 20-tooth driving sprocket, and on to the take-up reel. The lens is a standard 2", F/2.0 cine lens in screw mount. Framing and focusing are accomplished by a prismatic finder, eliminating parallax by picking up the image at the focal plane through a hole in the sprocket; the image is seen erect and correct from left to right on a ground glass screen at the rear of the camera.

The rotary shutter of the conventional motion picture camera is missing in the Fastax. In its place, between the lens and the film plane, is a four or eight-sided glass prism, with opposing faces parallel; an exposure slit is provided ahead of and behind the prism. The prism rotates at a high rate of speed (60,000 r.p.m. while taking pictures at top speed) and acts both to provide a steady image on the fast moving film and to perform the functions of a shutter. Figure 5 illustrates how this is done: the light rays picked up by the lens are focused on the film surface as it rests on the face of the sprocket; when

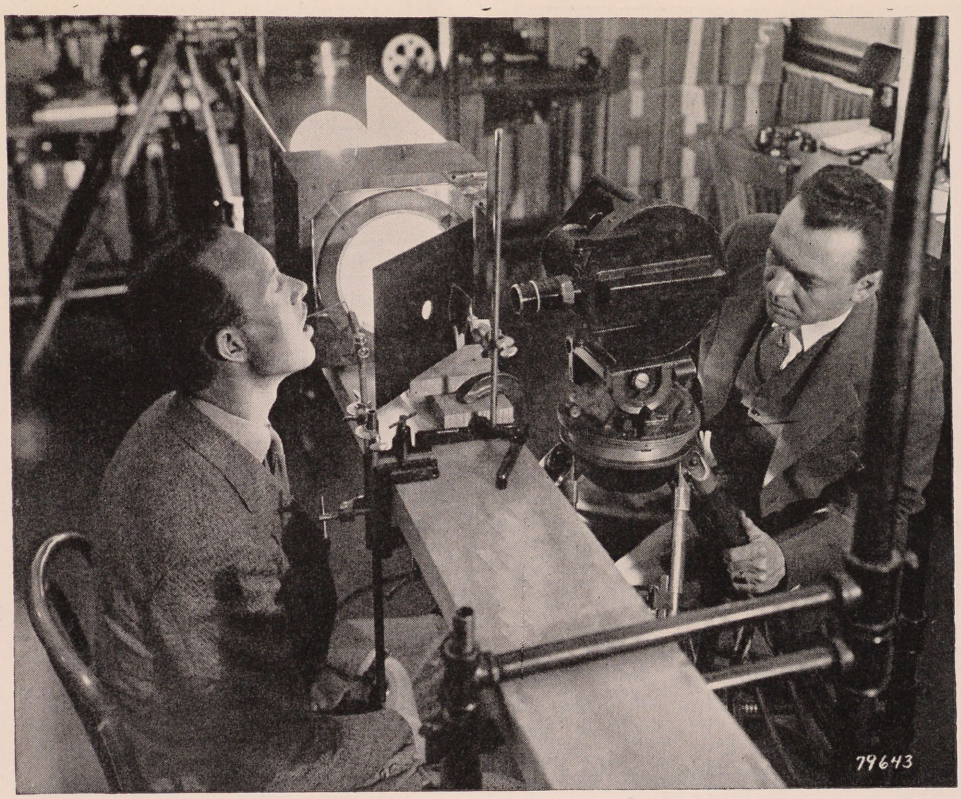


Fig. 2. The Fastax camera set up for photographing the vocal cords. The light beam is directed by the large mirror into the mouth, and then directed down the throat to the larynx by a small laryngeal mirror held near the soft palate. The camera shoots through the hole in he center of the large mirror and down onto the vocal cords by means of the laryngeal mirror.

the prism is at rest the image is projected along the dotted lines. However, as the prism rotates in synchronism with the film sprocket the image is displaced by the refraction and rotation of the prism so that it travels in step with the film across the exposure slit. As soon as the prism has rotated to the point where the light rays might strike two adjoining prism faces, the prism housing performs the functions of a barrel shutter, blocking the light from the film and so forming the frame line.

The view finder is attached to the door of the camera as seen in Fig. 3. One of the two prisms of this finder (Fig. 4) fits inside the sprocket behind the viewing hole in the sprocket's rim. A microscope objective in the finder tube is focused through the two prisms directly on to the film plane. A light trap, operated by an external lever, prevents light from the finder from fogging the film while the camera is in operation.

Film travel in the Fastax reaches the amazing speed of seventy miles per hour while the camera is running at its highest taking rate. The speed of the camera is governed by the voltage applied to the two motors and ranges to as slow as 150 frames per second; the one hundred foot load of film lasts from one-and-a-half seconds to twenty-five seconds, depending on the camera speed. To more evenly distribute the strain on the sprocket holes, double-perforated film is used. In the 16mm camera, which has an eight-sided prism, the frame size is cut to one-quarter the larger size; a strip is exposed down one side of the film, and the film is reversed and exposed down the other side, exactly as in standard double-eight millimeter amateur cameras. Film travel and prism rotation speeds are identical for 16 millimeter images at 4,000 frames per second and for Double-Eight images at 8,000 frames per second, the increase in frame speed in the smaller picture being supplied by the larger number of prism faces. The difference in size of the faces of the two prisms also causes a change in exposure; duration of exposure at maximum camera speed with the four-sided (16mm) prism is about 83 millionths of a second, while the eight-sided (8mm) prism is about 33 millionths of a second.

In order to take fully illuminated pictures with available lenses and Super XX film when exposures are measured in such minute fractions of a second, it is necessary that light of extreme intensity be employed. However, by keeping the photographed area to a small size the focused, overvolted filaments of a few 150-watt show window spotlights, having the sealed-beam reflector, are sufficient for full exposure at 8,000 picture-per-second speeds. It is interesting to note that natural outdoor lighting is too weak for speeds above 2,000 frames per second.

The versatility of the Fastax has enabled it to be used in many unusual applications. Since it does not depend upon the gaseous discharge lamp for

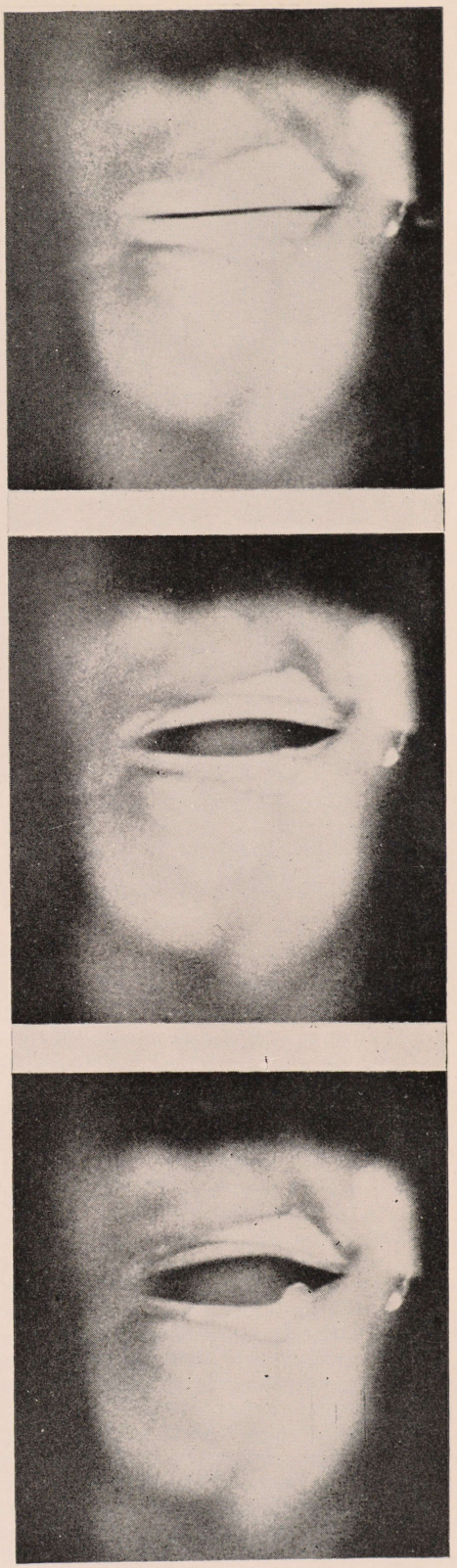


Fig. 6. A knowledge of the fundamentals of speech and hearing is important to designers of telephone apparatus. These pictures show the vocal cords vibrating at low frequency.

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illumination Kodachrome has been used successfully; notable are the natural color high speed pictures of the production of speech by the vocal cords. Also, polarized light has been used in some

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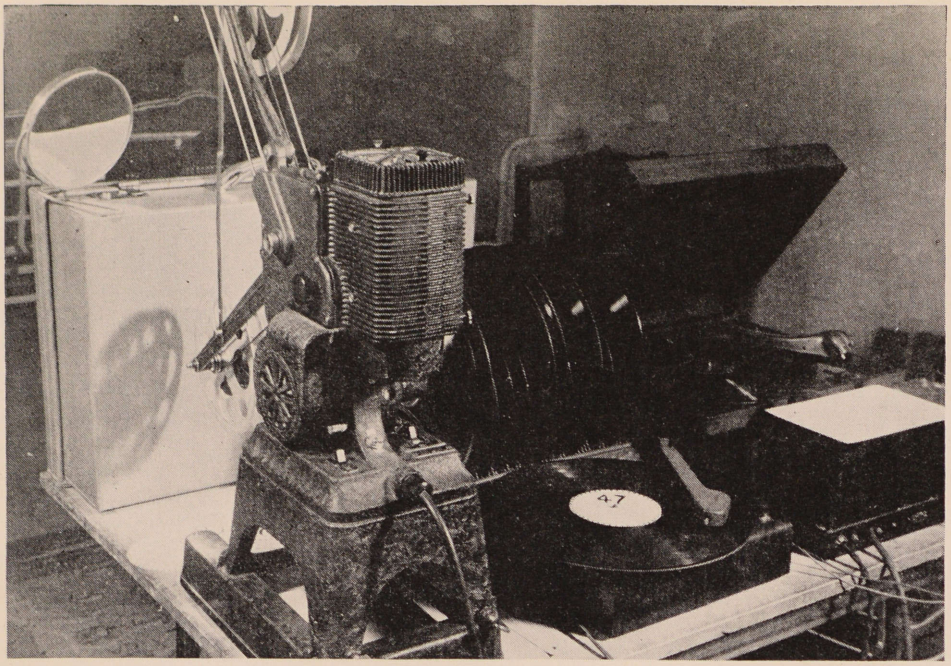

Using "Strobo-Sync"

By EDWARD J. KINGSBURY, Jr.

WHEN amateurs accompany their films with music on records, it is generally stressed that each sequence be accompanied by music that matches its mood and is consistent with the type of film and other selections. Less is said about timing them so that a selection will begin and end with the fade-in and fade-out of the sequence, although the music fits the picture far more effectively in this way. When music is faded out at random without reaching a climax, a good effect is lost, to say nothing of the injustice to the composer.

One method of matching the running time of a sequence to the playing time of its accompanying selection is to vary the speed of the projector. Suppose that a particular selection is a few seconds longer than the sequence it accompanies. By a slight reduction of the speed of the projector the sequence can be stretched so that it fades out at the same moment that the last chord of the music is played.

Likewise if the selection is too short, the speed can be increased to reduce the running time of the film and thus avoid having several seconds of silence. These different speeds can be synchronized with the music by an adaptation of the "strobo-sync" method discussed in recent issues of THE AMERICAN CINEMATOGRAPHER. Althought this method was designed originally to synchronize special sound-on-disc accompaniment, the set-up, illustrated in Figure 1, is the same in both cases.

With sound-on-film the only way to match a sequence to a given recording is to add or remove film before it is combined with the sound track. Amateurs can use this method with their silent films, but generally it is difficult to add footage and often undesirable to remove it from an edited film. If the film were edited to fit a particular selection, it would probably have to be re-edited if a better selection were substituted. This method of varying the speed of silent projectors is especially valuable with purchased subjects and with dramatic films, which are usually difficult to re-edit.

This method is actually less difficult than the use of one speed, because each cue comes from the end of the preceding selection and not from a particular point on the film that must be noted. Likewise experience has shown that with a fairly good library of records from which to choose, the necessary variations in projector speed are so slight that they are seldom, if ever, perceptible to the audience. Extreme variations from the normal speed are undesirable.

Two formulas are quite useful in figuring the required number of dots (or bands or sectors as the case may be) on the stroboscopic disc. To synchronize a particular film at the approximate speed desired, we must know the relationship between the number of dots and the speed of the projector. Then when we have the running time of the sequence at this speed and the playing time of the music, we must figure the number of dots for the speed which will make them equal.

The following symbols will be used:

B	Number of blades on the shutter
D	Number of dots on the disc
t	Time of sequence (seconds)
v	Projector speed (frames/second)
m subscript	With music
s subscript	Silent

The relationship between the number of dots and the projector speed is based on the fact that if the dots are to appear to stand still, the number of dots must equal the number of light flashes during one revolution of the disc, or

$$D = \frac{\text{light flashes}}{\text{revolutions}}$$

Using a time of one minute for ease in figuring,

$$D = \frac{\text{light flashes per minute}}{\text{revolutions per minute}}$$

The number of light flashes per second is, of course, the product of the speed of projector in frames per second and the number of blades on the shutter. The speed of the turntable on which the disc is placed is 78 rpm, so

$$D = \frac{60\,Bv}{78} = \frac{10}{13}\,Bv$$

or

$$v = 1.3\,\frac{D}{B}$$

The relationship between the time and the number of dots is fairly obvious—their product is a constant. The proof is based on this elemental formula:

$$\text{Speed} = \frac{\text{Length}}{\text{Time}}$$

Since the length of sequence is constant,

$$\text{Length} = vt = \text{constant}$$

But from the first formula,

$$D = v \times \text{constant}$$

So

$$Dt = \text{constant}$$

or

$$D_s t_s = D_m t_m$$

The figures for the first formula are tabulated in Figure 2; but no tabulation is made for the second formula, since it is easier to use a slide rule for each individual case.

A stroboscopic disc for each speed can be made by tracing on a blank card the outline of a gear with the proper number of teeth and then making large dots in this outline. For general use, however, it is easier if several consecutive dots are combined on one disc, the dots being of contrasting colors or types (clear, solid, shaded, or with sectors of different sizes). For quick identification the key can be entered on the music cue sheet as well as on the center of the disc itself.

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Aces of the Camera

XXX:

Lee Garmes, A.S.C.

By HAL HALL

IT might well be said that Lee Garmes, A.S.C., is a man who refuses to be satisfied with success. He believes you are going backward if you are not moving forward. To him there is no such thing as standing still. That, undoubtedly, is why he has become one of the greatest directors of photography in the business.

Garmes was born in Peoria, Ill., in 1898. His was an uneventful life until his parents moved to Oakland, California, in 1906, just in time to land them in the midst of the disastrous San Francisco earthquake and fire. The family immediately moved right out of the state, going to Denver, Colorado.

Garmes was always intensely interested in motion pictures, attending every possible picture and reading everything available on the subject. His interest was so intense that in 1915, when he had finished school in Denver, he persuaded his family to move with him to Hollywood, so he could try for a job in films.

Shortly after arriving in Hollywood young Garmes learned through a friend that a job was open at the Thomas Ince Studios. He dashed out, and after being stalled along for a time, finally got into the studio and talked himself into the job as property-boy and all-round handyman. Garmes was quick to make friends, and soon caught the eye of Cameraman John Leezer who started teaching him the art of photography. When Leezer later moved to another lot to photograph Dorothy Gish and Richard Barthelmess he took Garmes along as his assistant.

Here Director Elmer Clifton spotted him as directorial material and tried to persuade him to become an assistant director. Garmes finally decided to stick to the camera, and after several years as an assistant cameraman was given the job of first cameraman on a series of Gale Henry 2-reel comedies. Following these he photographed a full length picture with moderate success.

Then came the turn that led Garmes to cinematographic fame; and also brought fame to Director Mal St. Clair and to Adolph Menjou. He was assigned to photograph a film called "The Grand Duchess and the Waiter." The story was considered more or less of a lemon, and Menjou was considered a second-rate actor because he had "bags" under his eyes. Young Garmes started experimenting on eliminating those "bags" with lights, and in so doing became the first cameramen in pictures to use mazda bulbs instead of carbans. He used two mazda bulbs with empty tomato cans for reflectors, and to the amazement of everybody, he wiped out the dark splotches the bags had always made on Menjou's face. When he saw that this worked he rigged up a lot more mazda bulbs, hanging them about on the set. The result was that he succeeded in making a picture with a wide range of tone values instead of the sharp blacks and whites of arc-lighted pictures. It can truthfully be said that by introducing the mazda lights in this film Garmes made one of the most important contributions ever developed in the field of motion picture photography.

When "The Grand Duchess and the Waiter" was finished studio executives thought the lighting too radical, and twice almost shelved the picture. Finally they released it during Christmas week when business was usually slack, and—to their surprise, the film drew capacity crowds and became one of the box office sensations of the year. Garmes, Menjou and St. Clair became famous overnight.

From then on Garmes had the pick of the pictures. He went to France and later to Algiers for Rex Ingram to make the first "Garden of Allah." He followed this with picture after picture in rapid succession, and continued experimenting with mazda lights. In one picture on which the budget for lighting was set at $12,000 Garmes cut the cost to only $3,000 by his home-made mazda light contraptions. When the Academy of Motion Picture Arts and Sciences was formed in 1927 one of the first things the technical division of the Academy did was to advise all cameraman to visit Garmes on the set in order to study his methods of using mazda lights.

Besides pioneering in lighting, Garmes was likewise one of the first cameramen to use panchromatic film. Despite the objections of his directors, Garmes managed to "sneak" a lot of shots in on the new panchromatic film, and then when the directors commented upon the fine quality of those scenes he would tell them the truth, and they would then accept panchromatic film.

In 1932 Garmes reached absolute tops in his photographic profession by being given the Academy Award for his photography on "Shanghai Express." Besides this distinction, Garmes by then was considered one of the highest paid cameramen in the industry, with a weekly salary reported in the four-figure class.

But this man from Peoria wasn't satisfied. He would not rest on his photographic laurels. He wanted to direct pictures, so in 1933 officials at the Fox Studios gave him a contract as a director. This almost turned out to be the ruination of Garmes' career, for on the very day he started his contract the famous cameramen's strike broke in Hollywood. The studio officials suggested that Garmes photograph his own pictures. This he firmly refused to do. For months Garmes came to the studio daily, read story after story, received his weekly check but—was given no directing assignment. Finally Garmes' sincerity and the fact he was in the right was recognized by the studio and he was again back in favor.

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A.S.C. on Parade

THE other night at an A.S.C. meeting two directors of photography were talking. "This last year," said one of them, "I made sixteen pictures—twelve of them features ranging all the way from top-budget 'specials' to ten-day quickies." Said the other one, "Last year I made about three and a half features, and put in just as much work and worry as I want to—maybe a little more."

It seems to us that there would be a lot gained if a happy medium could be found between these two extremes. Three or four really big pictures probably represent as much in earning-time, work and worry for a director of photography as do half-a-dozen smaller "quickies" . . . and we've never seen any logic in assigning a major-studio feature cameraman to a short merely to get a few days' extra work out of him while he's on payroll.

Despite the increasing number of cinematographers going into the Armed Forces, the industry still has a generous over-supply of trained directors of photography. Why not, therefore, spread the industry's production out more equitably between them? Cinematographers should support a move in this direction, if only for the selfish aim of being able to give their pictures better (and therefore potentially higher-priced) photography because they come to each picture physically and mentally fresher. Producers should support it for this reason, and because it would enable them to conserve their trained manpower not only against the ceaseless drain by the Armed Forces, but against the overwork which has killed off so many invaluable cinematographers of late.

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The following members of the A. S. C. are directing photography on the following pictures.

At Columbia Studios: Rudolph Mate, "Cover Girl;" Philip Tannura, "There's Something About a Soldier;" Franz Planer, "Tropicana;" L. W. O'Connell, "Doughboys in Ireland;" Ernest Miller, "Is Everybody Happy?"

At Metro-Goldwyn-Mayer Studios: Karl Freund, "A Guy Named Joe;" Hal Rosson, "America;" William Daniels, "The Heavenly Body;" George Folsey, "The White Cliffs of Dover;" Robert Surtees, "Meet the People;" Len Smith, "Broadway Rhythm;" Charles Lawton, "See Here, Private Hargrove;" Les White, "Andy Hardy's Blonde Trouble."

At Paramount Studios: George Barnes, "Frenchman's Creek;" John Seitz, "Hail the Conquering Hero;" Victor Milner, "The Story of Dr. Wassell;" Henry Sharpe, "Ministry of Fear;" Charles Lang, "Standing Room Only;" Fred Jackman, Jr., "Timber Queen."

At RKO Studios: Tony Guadio, "Revenge;" Jack McKenzie, "Gildersleeve on Broadway;" Nick Musuraca, "An American Story;" Frank Redman, "Government Girl;" Russell Metty, "Around the World."

At Samuel Goldwyn Studios: James Wong Howe, "The North Star;" Ray Rennahan, "Up in Arms."

United Artists: John Mescal, "The Girl From Leningrad;" Lee Garmes, "Jack London;" Russell Harlan, "Texas Masquerader."

At 20th Century-Fox Studios: Charles Clarke, "Guadalcanal Diary;" Joseph LaShelle, "Happy Land;" Ernest Palmer, "Pin-Up Girl;" Leon Shamroy, Buffalo Bill."

At Universal Studios: Charles Van Enger, "Crazy House;" George Robinson, "Ali Baba and the Forty Thieves;" Elwood Bredell, "His Butler's Sister;" Hal Mohr, "Man of the Family;" William Alton, "The Professor Goes Wild."

At Warner Bros. Studios: Carl Guthrie, "In Our Time;" Merritt Gerstead, "Conflict;" Arthur Edeson, "Shine on Harvest Moon."

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Lucky **Karl Struss, A.S.C.,** is an internationally famed still photopictorialist. Preparing for Paramount's "And The Angels Sing," he and stillman "Whitey" Schaefer shot all the costume and make-up tests in stills, rather than movies.

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John F. Seitz, A.S.C., and his assistant, Harlowe Stengel, double in brass as technical advisers. Seems Erich von Stroheim, playing Field-Marshal Rommel in "Five Graves to Cairo," learned the real Rommel was an enthusiastic minicamerist, so "Von" added a Leica to his uniform accessories. And of course he had to have expert advice on how to handle it authentically!

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Stanley Cortez, A.S.C., after more than a year on loan, at last gets a chance to work for his own boss, D. O. Selznick, directing the photography of Shirley Temple's "Since You Went Away." And thanks, **Stan,** for that highly complimentary letter about the May issue. We appreciate it sincerely.

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Leon Shamroy, A.S.C., with "Claudia" successfully finished, slipping off to his ranch for a well-earned rest.

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Could anybody identify the well-known cinematographer who, so rumor has it, always gets too seasick to go on any floating locations, yet spends his week-ends a-yachting—charmingly accompanied—?

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Johnny Arnold, A.S.C., and **Emery Huse, A.S.C.,** busy teaching a class of Leatherneck cameramen, with **Capt. Henry Freulich, A.S.C., U.S.M.C.,** helping keep the situation well in hand.

Aces of the Camera

(Continued from Page 395)

However, at this point Ben Hecht and Charles McArthur decided to make pictures in New York. They asked David O. Selznick to find them a man who would be both a good cameraman and a director. Selznick, who had never met Garmes, recommended him. Garmes secured his release from Fox and went to New York. There Garmes photographed, directed, edited and turned out three films, two of which were big box office successes—"Crime Without Passion" and "The Scoundrel."

Meanwhile Garmes had met Alexander Korda and had told him of all the original things he wanted to do in films, but which the studio heads were afraid of. So, just as Garmes finished his third picture for Hecht and McArthur, Korda cabled him from England to go over with him and do all the things he had talked about. He accepted!

For three and a half years he worked in England as cameraman and director. During this period he helped advance British films by introducing various American techniques. But all was not a bed of roses for ambitious Mr. Garmes. He had an opportunity in England to do "Wings of the Morning," one of the biggest technicolor pictures ever made in England, but had to give it up because of his contract with Hecht and McArthur. They called him back to New York to make a picture. He sat in New York and drew salary but the picture never was made.

And then came a bitter disappointment. Garmes was signed to direct "Pygmalion." At the last minute George Bernard Shaw learned he was not a British subject and refused to let him work on the picture. Garmes drew his salary for directing the film, but spent the time touring Italy and Southern France.

The final act in the British interlude came when Garmes formed his own producing company in England. He had everything lined up when the bottom dropped out of the British financial market and his prospective backers had to withdraw.

Although Garmes hoped to remain in England permanently, had even bought a home there, he was lured back to Hollywood by an offer to photograph "Gone With the Wind." He returned, lensed the picture for several weeks until a studio shakeup took place which saw a new director, new cameraman and practically entire new technical crew on the film.

Unattached again, he began toying with the idea of becoming an independent producer. With screen writer Adele Comandini as his partner, he made a picture for release through RKO. The venture was not a financial success, so

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AL JUNIOR"*

[illegible] Club

JULY meeting of the Los Angeles 8 mm. Club was held the evening of July 13 at the Bell & Howell auditorium. It was "Contest Night," and brought forth some excellent entries.

Prize winners were: first prize, "Billy's Big Adventure," an amazing film by Fred Evans, based on his young son's first hair cut; second prize, "Studio Programs and Camera Cruises," by Irwin Dietze; third prize, "Nitwit News," by W. D. Garlock.

Rating honorable mention were "Ice Capades," by Stanley Clemens; "The Mischa Auer Radio Hour," by C. W. Wade, Jr.; and "Los Angeles Floods," by Dr. R. S. Petter. The program concluded with screening of two guest's films, "Life in the Ozarks," by Bruce Barnhill, and "A Victory Garden or Where's the Sloan's Liniment," by Mr. and Mrs. Earl Holbrook.

Utah Cine Arts Club

THE Utah Cine Arts Club sponsored a special showing, on the south steps of the State Capitol Building in Salt Lake City, of club films on the night of July 14.

Purpose of the showing was to acquaint the public, especially newcomers to the State and men in uniform, with the scenic and other attractions the State of Utah has to offer. All films shown were made by members of the club. The program lasted one hour and forty-five minutes and was acclaimed a real success.

Featuring the showing were the following 8 mm. pictures:

"Cheating the Dentist," by Al Londema; "Mesa Verde," by Virginia Smith; "Roamin' Holiday," by Dr. C. Elmer Barrett; "Rodger," by F. K. Fullmer; "Some Western Color," by Elmo H. Lund; "Dog Daze," by George Brignand; "Canyon Trails," by Bishop C. E. Schank; and "The Utah Trail," by Mr. and Mrs. Al Morton.

Frisco Cinema Club

INTERESTING indeed was the July meeting of the Cinema Club of San Francisco, which was held the evening of July 20. The meeting was held in the Women's City Club, and was preceded by a pre-meeting dinner.

Dr. J. Allyn Thatcher, chairman of the Club's education program, gave an interesting demonstration of making disc recordings which combine narrative and musical backgrounds.

Mr. A. O. Olson thrilled the gathering with a demonstration of his apparatus for recording sound on wire, which also synchronizes the sound to 8 mm. film. He then presented an excellent 8 mm. Kodachrome film, "Mountain To Seashore."

Southern Cinema [illegible]

STARTING with the July meeting, the Southern Cinema Club instituted a policy of holding meetings at members' homes. First of these was on Sunday, July 25, at the home of Ben Gale.

The meeting was divided into two sessions, afternoon and evening. Members brought their lunches. Afternoon was a technical session, with some picture filming. In the evening uncut films were displayed in a special contest being conducted by the club.

PLEASE NOTE

WE are always pleased to print news about the activities of the various Amateur Cinema Clubs, and from letters that have come to the editor's desk, we know that amateurs throughout the country like to read about what the other clubs are doing. So, you publicity directors of the many clubs, why not get busy and send in more news to this magazine?

We can use pictures, too, of your gatherings and activities. If you are shooting a film, send us photos of your group in action. If some club member develops a new idea send that along for the benefit of the members of other clubs. Many times some particular activity of a club is worthy of a special feature story. If you have a good writer in the club, have him do a feature and send it to us with photographs, and we will be happy to print it. Remember, this is your magazine, so take advantage of it.

The Editor.

The New Fastex High Speed Camera

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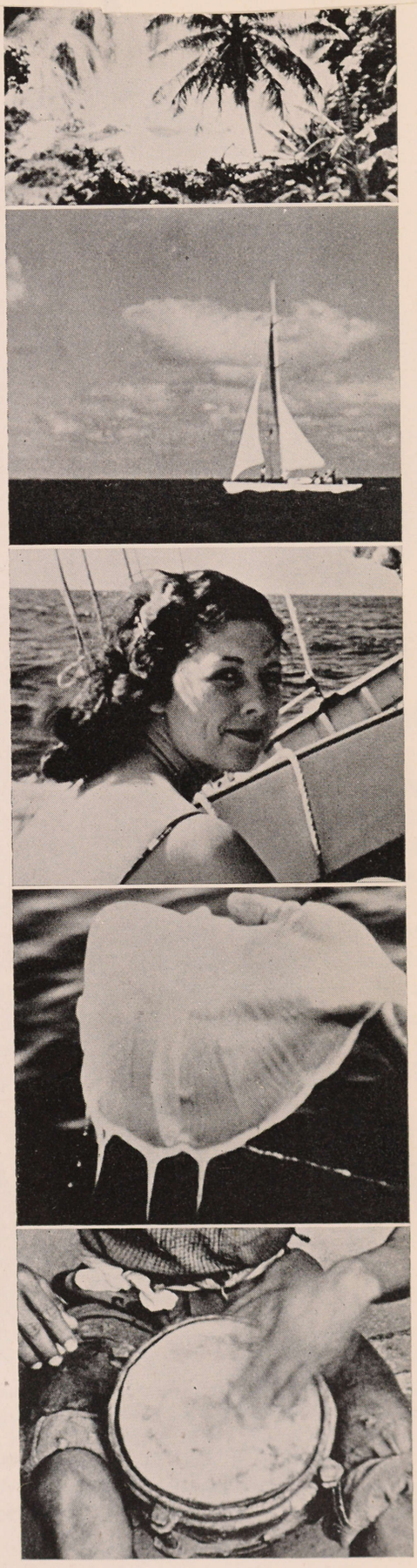
tests, particularly in studying the stress and impact conditions in transparent materials. It is also possible to take high-speed pictures of self-luminous objects, such as the filaments of incandescent lamps under test.

Many of the current applications of the Fastax are on highly restricted projects and naturally cannot be discussed at this time. But high speed analysis is here to stay and its application to tomorrow's research will play a big part in making the mechanical servants of the post-war civilian more efficient, less costly, and more widely distributed.

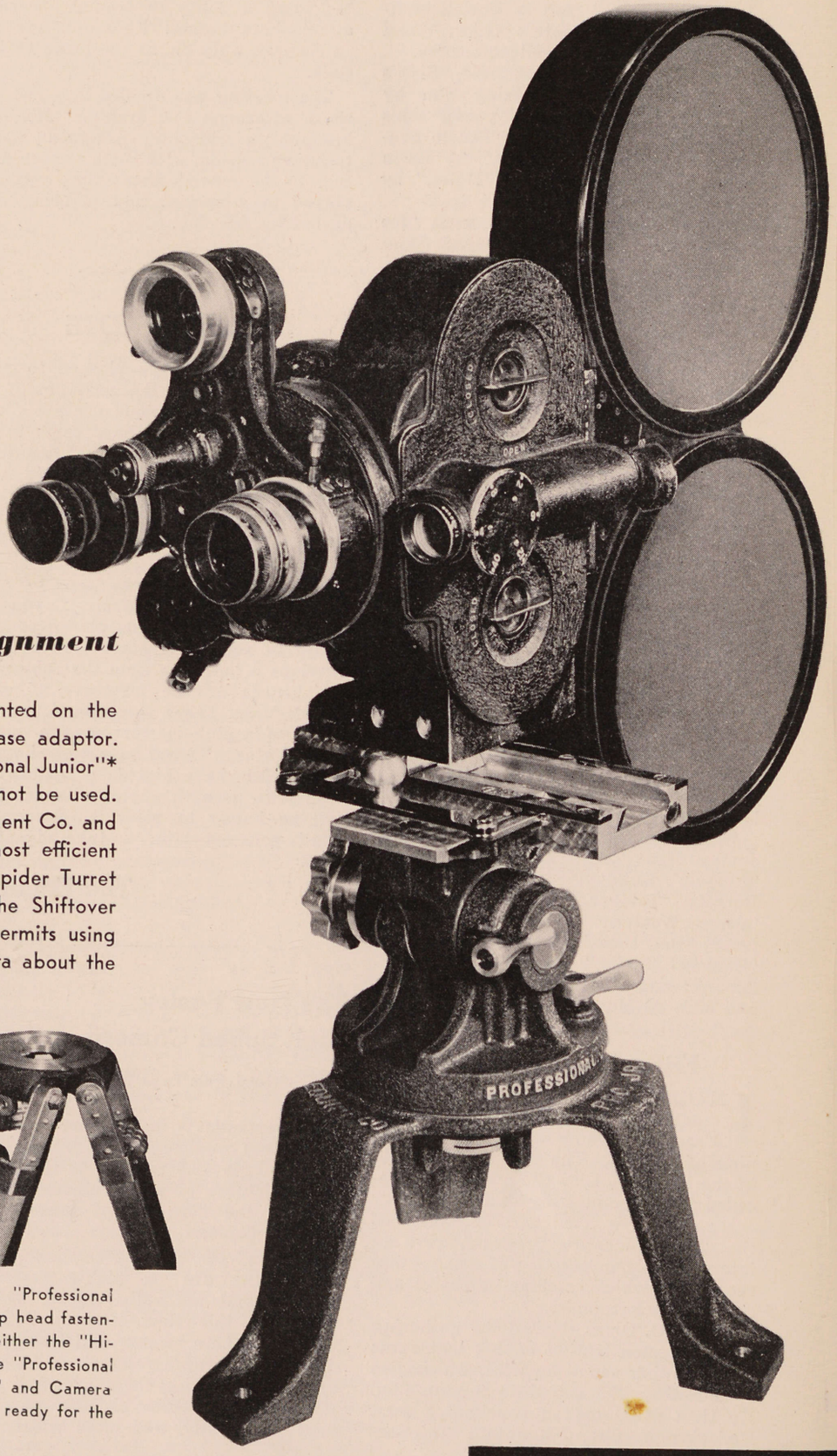


A.S.C. on Parade

(Continued from Page 395)

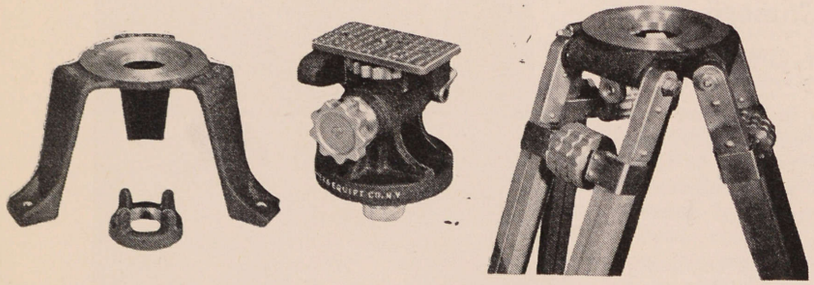
However, at this point Ben Hecht and

TRIPOD WITH REMO



"Hi-Hat" and Shiftover Alignment Gauge

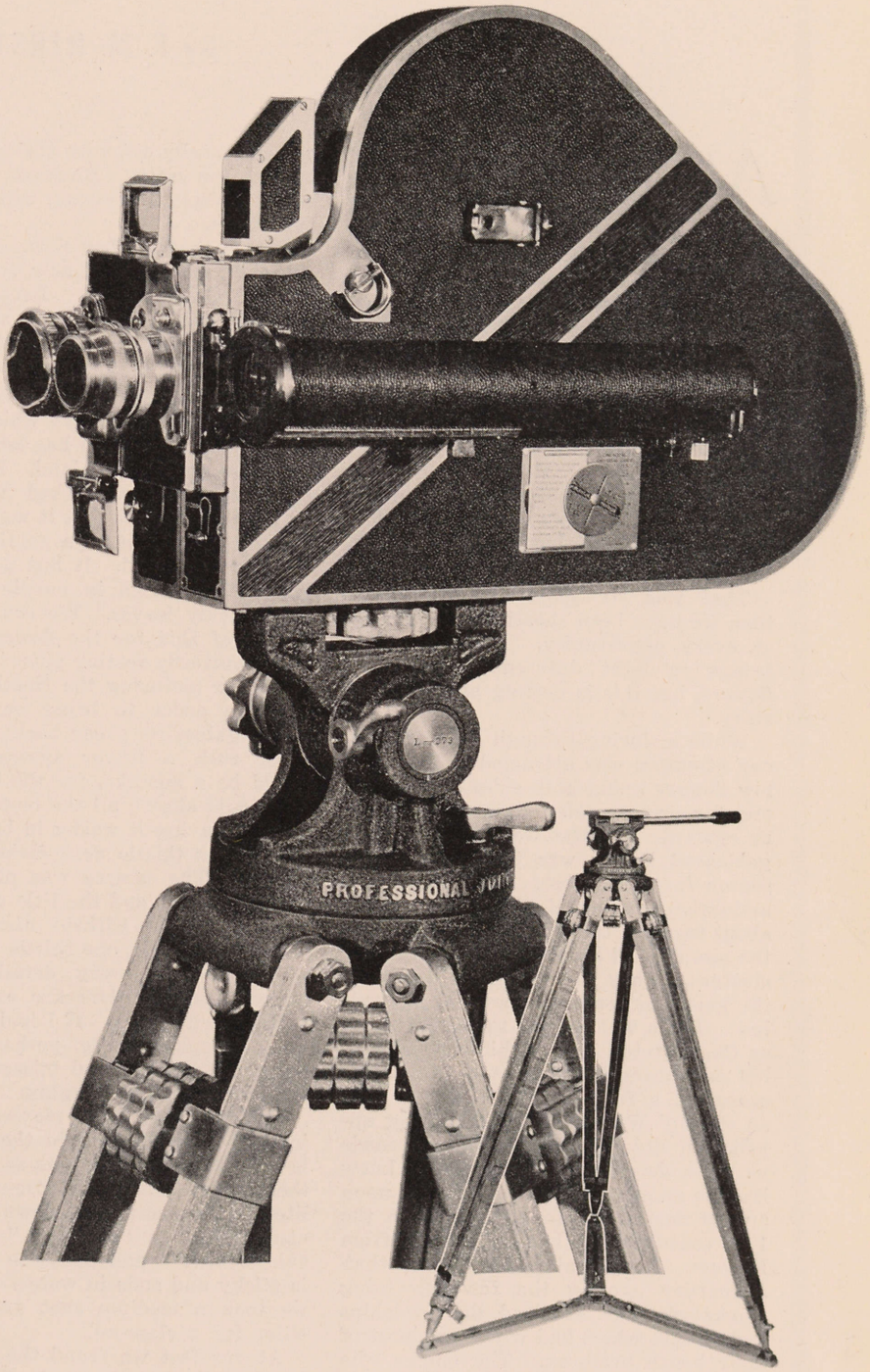
★ Illustrated is the B & H Eyemo camera mounted on the Shiftover Alignment Gauge and "Hi-Hat" low-base adaptor. The "Hi-Hat" low-base adaptor takes the "Professional Junior"* tripod head for setups where the tripod legs cannot be used. The Shiftover device (designed by Camera Equipment Co. and patent applied for), is the finest, lightest and most efficient available for parallax correction for the Eyemo Spider Turret prismatic focusing type camera. The male of the Shiftover attaches to the camera base permanently and permits using the regular camera handle if desired. Further data about the "Hi-Hat" and Shiftover will be sent upon request.



ABOVE, LEFT—the "Hi-Hat" ready for the friction type "Professional Junior" tripod head to be affixed. Under it is the finger-grip head fastening nut that firmly holds the removable tripod head onto either the "Hi-Hat" or tripod legs base. CENTER—the new friction type "Professional Junior" removable tripod head that fits both the "Hi-Hat" and Camera Equipment Company tripod. RIGHT—the tripod legs base ready for the friction type head to be affixed.

AL JUNIOR"*

BLE HEAD AND "HI-HAT"



Above — Collapsible and adjustable telescoping metal triangle. Extends from 16½" to 26½". Has wing locking nuts for adjusting leg spread and stud holes for inserting points of tripod feet. Triangles prevent damage, insure cameramen that their equipment remains in correct position and will not slip on or mar any type of surface. Further particulars on request.

The New Removable Head "Professional Junior" Tripod*

* The new removable head feature adds great flexibility to the ersatile "Professional Junior"* Tripod. It is now possible to easily remove the friction type head from the tripod legs base by simply unscrewing a finger-grip head fastening nut. The tripod head can then be mounted on a "Hi-Hat" low-base adaptor for low setups.

The friction type head gives super-smooth pan and tilt action,—360° pan and 80° tilt. A generous sized pin and trunnion assures long, dependable service. "Spread-leg" design affords utmost rigidity and quick, positive height adjustments. A "T" level is built into this superfine tripod. The top-plate can be set for 16mm E.K. Cine Special, with or without motor; 35mm DeVry and B & H Eyemo (with motor), and with or without alignment gauge. The tripod head is unconditionally guaranteed 5 years. More data about the "Professional Junior"* Tripod With Removable Head is contained in literature that will be sent upon request.

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* Patent No. 2318910

* Patent No. 2318910

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EQUIPMENT CO.

NEW YORK CITY

The Floral Spectrum

By F. M. HIRST

A CAR rambling over the hard packed dirt roads of Cape Breton came slowly to a stop. It seemed as if some strange power had prevented it from going on. As two people stepped from the car, they paused to breathe in the heavily scented air, for they had come upon one of nature's glorious flower gardens. Wild flowers, in never ending profusion, covered the hillsides and carpeted the fields in glowing colors. Here, indeed, was a paradise for the wild flower lover and manna for the camera enthusiast. It was irresistible! Until then the idea of taking movies of wild flowers was far from our thoughts, but soon we had enthusiastically exposed two rolls of film.

That was six years ago, and since then we have been shooting wild flowers at every opportunity. Each new trip brings to light different varieties of flowers, but this is getting ahead of our story.

While motoring through Cape Breton, our attention was attracted to deep yellow flowers lining both sides of the road and forming a golden trail, ever leading us onward. At first we thought it was goldenrod but it was too early in the season for this flower. Upon closer examination we found the plants to be about two feet tall and the flowers about the size of wild asters, growing in heavy clusters. They are richer in hue than the goldenrod—more of an orangey yellow. There was no one to ask its name as Cape Breton is very thinly populated, but some time later we stopped and inquired of a farmer. "It is known only as stinkin' Willie." This endearing appellation did not satisfy us and made us more determined than ever to know its true name. Days later we came upon an old monastery, founded early in the 17th century by a band of monks from Europe. It was abandoned more than a century ago by the few remaining monks who had survived the hardships and disease which had wiped out most of their brave brethren. The monks who were re-building the monastery at the time of our visit had recently arrived from Germany. The Father Friar in charge was the only one of the group who could speak English, and it was from him that we learned the name of the flower. He told us that it was called senecio, and was foreign to Cape Breton. No one could recall how it came there. It seems that cattle will not eat it while it is growing, but if it should be accidentally cut with the hay, then it poisons the cattle. However, sheep can eat it while it is growing, with no harmful effects.

It was these yellow flowers that suggested "Golden Trail" as a title for our film of Cape Breton. Long shots of golden fields and close-ups against the sky and the blue of the lakes enhanced the richness of this golden senecio.

Another flower of Cape Breton is the thistle, identical to that which we saw in Scotland. Scotland has left an indelible mark in this new land. Most of the population have a marked Scottish accent, and I suspect that it was they who brought the thistle as a gentle reminder of their homeland. It has a large fragrant flower, rich in purple hue, with bold prickly leaves. We couldn't resist a shot of this for the flower we chose had a butterfly resting upon it. The best angle for picturing the thistle is downward in order to bring out the true color against its green background. To shoot such a flower against the sky would be a mistake, for the blue of the sky would absorb all the blue out of the purple, leaving it washy in tone. A bee on another thistle next claimed our attention. The camera was placed in an Eastman titler and the title easel placed over the flower without disturbing the bee. As a result, one thistle and a busy bee, sharp in every detail, fills the screen. Small titlers are excellent for such close-up work. If I had stopped to use a telephoto lense, perhaps I would have lost the bee and missed centering the flower, due to paralax.

Not far away large masses of bouncing bet were dancing in the breeze. It is easy to see why it was so named, for these heavy clusters of rose-pink flowers literally bounce up and down. They are also known as "soapwort." They are spicy fragrant and the juice in the stem is sticky and suds in water. Here again we took a medium shot and used the titler for a close-up.

At our feet we found the bell flower. These bell shaped purple flowers have five lobes and grow on one side of the stem. They are small flowers and require the use of the titler in photographing them.

Our first impulse on seeing a field of wild roses was to shoot the whole field. The result is very disappointing, for you see nothing but a mass of green covered by pink dots. A medium shot of one bush followed by a close-up is far better. To have one full blown wild rose with its yellow center fill the screen, will bring exclamations of delight from your audience.

Bunch berries seemed to spread a scarlet mantle over the hillsides of Cape Breton. These bunches of vivid scarlet remind one of holly at Christmas time. They grow in heavy clusters close to the ground, each cluster surrounded by its own symmetrically grouped leaves. If you are partial to scarlet, here is something that will set your screen aflame. Don't forget to use your small titler.

Another showy plant is the fire weed. In some sections this beautiful orchid pink hue colors the landscape as far as the eye can see. This is one scene that calls for a long shot, but don't neglect your medium shot and close-up for the final punch.

Most people would pass the turtle head by, but to see a close-up on the screen is to really appreciate its beauty. It is of the figwort family and has sharp-toothed leaves and white clustered flowers which open in stages, starting at the bottom with white and gradually tapering off in green buds at the top.

As we were driving by a lake a frightened crane rose from the water. Hoping for a shot we stopped the car and walked to the water's edge. Our quarry never returned, but we were rewarded by shots of lovely water lilies. Close by we discovered an orchid growing in a secluded nook, and our camera soon captured the delicate orchid tints of this graceful flower. I had heard that there were orchids in Cape Breton, but I couldn't picture them growing so far away from the tropics.

On several occasions I have been fortunate to find flowers growing by a still pool. To shoot at a slightly downward angle from the opposite side of the pool gives a delightfully mysterious effct. Eliminate the sky and show the pool with its colorful reflections. The simple procedure of dropping a pebble in the center of the pool, after the camera starts, adds the needed animation and the surprise element.

The common milk weed is a flower that seems to be passed by more than any other flower. I suppose that it is so common that most people ignore it. Its flowers are more like berries growing in clusters with a rosy hue. It photo-

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REMARKS ON CINE SPEEDS FOR AMATEURS

By G. EVERETT MARSH

AFTER the cine amateur has become on familiar terms with his camera and can operate it with much the same ease as his still camera, he may aspire to shooting races, to slow motion, to animation, or to lapse time photography. An understanding of the principles underlying these adaptations is essential and they are herewith briefly presented.

We have to deal with three cine speeds, namely:—

1. Normal speed, 16 frames per second, (16 f.p.s.). This is the usual amateur camera speed and it is the amateur projector speed invariably. In this case the speed of action on the screen (screen-speed) is the same as the speed of the subject or object, (object-speed).

2. Superspeed, a speed greater than 16 f.p.s. Since the projector speed is constant, the screen-speed will be less than the object-speed, and we have what is called "slow-motion."

3. Subspeed, a speed less than 16 f.p.s. The screen then portrays a scene taking place at a rate above the natural or normal one. The projector speed, designated by S_p, will be assumed to be constant at all times. If it is above or below the normal value of 16 f.p.s., the action on the screen will be unnatural and when it drops a point or two, flicker arises. When the camera speed, S_c is equal to the projector speed, S_p, the screen speed, S_s, will be the same as the object speed, S_o. That is, when $S_c = S_p$, we have $S_s = S_o$, and the picture correctly presents the scene in the matter of rate of movement.

In the case of a rapidly moving scene, as a race of some sort, our interest is increased if the action is slowed down on the screen. The camera is operated at a speed greater than 16 f.p.s. and the screen speed is equal to $(S_o \times S_p/S_c)$, or $S_s = 16S_o/S_c$. Thus if the camera speed is 64 f.p.s., the action on the screen will be $(168S_o/64)$, or $S_o/4$, or ¼ as fast as the actual scene. The added interest that the shot provides is secured at the cost of extra film. The duration of transit of the film through the camera is here one-fourth of the usual time, and 100 feet of our beloved pan rushes madly from one spool to the other in a minute and a couple of seconds! By reason of this decreased time of camera operation, the need of accuracy in exposure is increased and a keener consideration of all photographic factors should be given.

To illustrate, let us assume that we are going to "slow motion" a high dive of two seconds duration. What should be the camera speed if the screening time is to be six seconds? From the relation, $S_c = 16\ T_s/T_o$, where T_s, T_o are the durations of screening and performance respectively, we have $S_c = 16 \times 6/2 = 48$; that is, the camera speed should be 48 f.p.s.

If the camera speed is subnormal for slow moving events, the screen speed is equal to $S_o \times S_p/S_c$. As an example, and using the slowest speed that the ordinary camera has, a shot was made of a turtle race at 8 f.p.s. The screen speed is $S_o \times 16/8$, or $2S_o$, that is, twice the actual speed. For lower speeds special methods of camera control must ordinarily be used.

This last relation holds for lapse time photography, the filming of events that progress so slowly that they require long periods of time, from the cine standpoint, for their completion. The name "tachygraphy" (to write rapidly) has been suggested and used for this procedure, the opposite of slow motion. The following is an illustration: a rosebud requires 24 hours to open, let us assume, and we wish to show it on the screen as occuring in one minute. The number of frames comprising the shot is 16 times the duration of screening in seconds, or 16 x 60, 960. Assuming the bud unfolds at a uniform rate throughout the 24 hours, the rate at which the frames are exposed is given by dividing the duration of scene in seconds by the number of frames. The duration is 24 x 60, or 1,440 minutes; the camera speed is therefore $1,440/960 = 1.5$ minutes; or one frame every 1½ minutes. Expressing this in general symbols, we have, since T_s, screen time, is 60, and T_o, object time, $24x60x60=84,400$, as the camera speed, $T_o/(16T_s)$, or $86,400/960 = 90$ seconds, as before.

In a problem of this kind the screening time is the controlling quantity and should be first settled on; the other variables can then be calculated. As is well-known, there is a particular and proper duration for the screening of a particular shot, the duration that evokes the maximum of entertainment value with no suggestion of tedium. This duration is the one to aim at and attain by adjusting the others to fit. A clear understanding of the simple principles expressed above will contribute to the success of your cine performances.

The Floral Spectrum

(Continued from Page 300)

graphs well and should be on the film of all who seek wild flower pictures. Return to it in the fall when its pod has burst open and you will be surprised at the beauty which you find there. Shoot it through your titler and you will be charmed with the result. It may seem, by this time, that I am harping unnecessarily about the use of a titler, but until you have used this instrument for this kind of work, you are missing a great deal. Try it on violets and you will see a richness of color and texture that is astonishing.

High on the slopes of Mt. Rainier, about 5500 feet above sea level, is a mountain meadow known as Paradise Valley, and covered with over 600 varieties of wild flowers. Here we find the lovely alpine lily with its white bell and yellow center, growing in profusion. It is about ten inches tall, and the best way to photograph it is to lie flat on the ground. A long shot to set the locale is desirable, but close-ups will bring out the full beauty of this charming flower.

Close by one will find the purple heather, the same variety as seen in Scotland. Here and there a little white heather mingles with the purple. Here, too, it is possible to photograph great expanses of blue lupine which is prevalent throughout the west. Use care in choosing your angle. A low angle is most desirable, shooting just over the top of the flowers. If you shoot it against the sky it will lose its color.

Indian paint brush or scarlet painted cup makes a fine show on Mt. Rainier. If one can stand the climb up to the snow line, this brilliant scarlet flower can be photographed growing within six feet of the snow. Choose a low angle and shoot with the glacier and blue sky as a background. The shot that seems to please most audiences is one that shows it actually growing close to the snow.

The dainty harebell, more commonly known as the bluebell, dances merrily on its thin stalk. It is easy to photograph. The Indian pipe, although a parasite, is an interesting little plant. It is all white, both flower and stem, and has odd little scales instead of leaves. The tiny flowers are bell shaped, usually growing singly at the end of each thick stem. Of course one need not go all the way to Mt. Rainier to photograph the wild carrot or Queen Anne's lace. It seems to grow everywhere. Its fine white lacy texture is brought out in all its delicate beauty when shot against a blue sky.

Moving eastward to Glacier National Park, one can photograph bear grass at its best. It is not generally known how it received its name, for bears will not touch it. Its stalks are sometimes cut down by ground squirrels for food and

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The Floral Spectrum

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its long leaves are used by Indians for making baskets. This very showy flower is a delicate creamy yellow and grows five feet tall. It blooms profusely during the early part of July and is outstanding in any setting. It photographs well against the deep forest background or the distant glaciers.

At the end of June or the beginning of July, the alpine meadows on Mt. Clements are golden with glacier lilies. In any direction that one may look, nature has provided an interesting background for the photographer. One may shoot freely without fear, for good composition is on every hand. Don't hesitate to lie down amongst these fragrant flowers for close-ups. It is a spot that makes one reluctant to leave.

There is another lovely yellow flower to be found in Glacier Park, growing amongst rocks or in gravel. It grows close to the ground in heavy clusters and has a bluish green leaf. There was a belief among early prospectors that its presence indicated silver deposits. That is why it came to be known as the silver plant.

The wild geranium is plentiful here. Its flower is a light pinkish purple, growing singly or a few in clusters. It grows about as tall as the cultivated geranium and is very attractive. Horsemint is deeper in hue than the wild geranium and has a strong pleasant odor. Its flowers are very hairy, somewhat courser than the thistle and more open. The heavy clusters make a very colorful display. It grows about a foot tall and photographing at a slightly downward angle will bring out its full beauty.

The Blackfeet Indians use the cow parsnip or sacred rhubarb in some of their ceremonials. It is a white flower resembling Queen Anne's lace, but much bolder in appearance. Growing three to six feet high, its massive leaves support a heavy stem. It is very striking when photographed against a blue sky.

Throughout this vast area the brown-eyed susan grows in wild profusion. It is similiar in appearance to its sister, the black-eyed susan, but has a rich brown center instead of black.

In the meadows at the base of Grinnel Glacier one can see the beautiful pink spiraea. Care must be taken not to overexpose this lovely flower, or it will register on the film as white. In the immediate vicinity the dainty moss rose is to be found growing close to the ground. Its brilliant yellow flower will add warmth to a wild flower film. Growing from the damp woody banks, the rose colored monkey flower adds cheer to its dark surroundings. A fast lense is required to capture the color of this forest-bound beauty.

Traveling further to the south we find one of America's most beautiful wild flowers growing close to the geysers. It is the fringed gentian—official flower of Yellowstone National Park. This lovely violet blue flower should be shot at a slightly downward angle to bring out its true rich coloring and form. The sandy soil of the geyser basin makes an excellent color contrast as a background. It is claimed that there are 600 different species of wild flowers growing in Yellowstone National Park, enough to satisfy the desires of the most ardent wild flower lover.

The wild iris and Indian pink grow in marshy spots. One may get their feet wet making close-ups, but the result is worth the effort. The yellow stonecrop makes a showy picture. It grows in small clusters and has a rich orangey yellow hue.

If you give your horse his head, he is sure to go and munch on an elk thistle. This odd looking plant is entirely different from purple thistle. It grows on a straight prickly stem and the flower is mostly green in color, tipped with a very pale lavender, nearly white. Its oddness creates a place for it in any wild flower film.

One of the loveliest pictures that I ever saw was a greatly enlarged photograph of the oxeye daisy. It was not in color but it was very striking in its appeal. The angle was low, slightly above the height of the flower, bringing the full plant in close-up. It may have been taken on slightly sloping ground for the daisies extended as far as the eye could see. In the distant background a mountain rose majestically into a sky of fluffy clouds, without distracting from the close-up o fthe daisy. Mother nature provides many interesting backgrounds for her lovely flower gardens. We many not all be so fortunate as to find such a setting, but with a little care in the choice of angles, all our flower shots can be enhanced.

A film of wild flowers, although lovely in itself, requires a theme to lift it from the monotony of one flower shot after another. There are several methods to be pursued in order to give interesting treatment to such pictures. One might use the theme of the seasons as a motive, showing winter as the opening sequence, and, as the snows gradually melt, lead into the first greens of spring and its budding flowers. Continue through the summer with all its brilliant flowers and end the picture with the milk weed pods and falling leaves.

Then there is the personal touch—children wandering down lanes and through fields, in search of wild flowers. The personal theme might incorporate a class in botany, showing the teacher explaining about the varieties of flowers, as they walk through the fields and woods.

Flora and fauna would make an interesting film. Shots of bird life and the smaller wild animals will add zest to wild flower pictures.

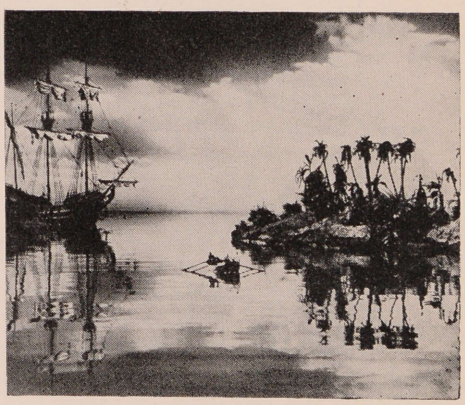
If one were really ambitious and cared for research, an interesting story could be told of the use of certain wild flowers in the field of medicine. Our grandparents depended upon the roots of flowers and herbs to cure their ills, so why not revive this interesting topic on film?

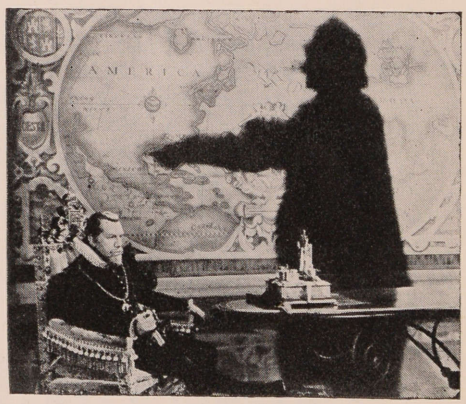
Poets have always been inspired by the beauty of the wild flowers. What could be more appropriate than the use of poems as titles for a wild flower film?

It is never too late in the season to start a film on this interesting subject. Begin collecting your shots now—long shots, medium and close-up, particularly the latter, and a theme for uniting them into a complete whole will suggest itself to you.

"Any man that walks the mead,
In bud or blade, or bloom may find
According as his humours lead,
A meaning suited to his mind."

—Tennyson





Illumination On Walls

(Continued from Page 286)

I want the lens aperture to be *f*:2.3. So I use the meter at the position of the subject and adjust the lighting until the meter indicates *f*:2.3. Then I step back and have the lights on the wall adjusted until the scene balance appears just right visually, with the background brighter than the subject.

We are now ready to shoot, and have assurance that the camera will record the scene so as to give exactly the right subjective impression in the finished picture.

Sometimes a very bright background is encountered. One that will *appear* much *brighter* than the subject. (See Fig. 3.) The same visual reaction described above will occur, only to a greater degree.

In this case I simply follow the same procedure previously outlined, only I figure on a greater differential being required. So I arrange a full *f*-stop differential by using, for example, the No. 64 matte when 32-speed film is being used.

This procedure gives exactly the effect desired. It is scientifically correct because it causes the camera's eye, the lens aperture, to be adapted exactly as the human eye adapts itself for each different type of illumination balance on a scene.

FOR FILM WESTON 32 SPEED UNDER ARTIFICIAL LIGHT

Type of Scene	*Matte*
NORMAL—Background slightly darker than principal subject	No. 32
EFFECT—Background slightly lighter than principal subject	No. 40
EFFECT—Background moderately lighter than principal subject	No. 50
EFFECT—Background much lighter than principal subject	No. 64
EFFECT—Background very dark	No. 24

Sometimes I encounter a scene in which an unusually dark background is supplied. It may be a wall made up of dark wood panels. (See Fig. 4.) A mean proposition—but there it is, and I have to light it.

Well, first I consider how the eye adapts to the scene. The eye, in this case, although adapting primarily to the principal subject, still influenced to some degree by the very dark background. Such a background causes the eye to open its iris a little more than usual. The result is that the principal subject will *appear* subjectively *brighter* than usual.

Now to faithfully record this appearance with the camera I find it advisable to set up a differential as described above, only in the opposite direction. In this case, where I am using 32-speed film for example, I select a No. 24 matte for the meter. Then I measure the illumination at the position of the principal subject. If I want to use an *f*:2.3 lens aperture, I have the illumination on the subject brought up until the meter indicates *f*:2.3. Then again I step back and have the illumination on the dark wall brought up until it gives visual balance. I do not mean by this that I over-light the dark wall until it appears as a light wall. A dark wall was desired and the result will be a dark wall. A typical case of effect-lighting. However the result in the camera will be an exact representation of the subjective visual effect desired.

Illumination on walls can be one of a cinematographer's greatest problems. However I have found that I can analyze each scene and consider how the eye will automatically adapt itself to the scene. Then I follow the indicated procedure of setting up a differential and selecting the appropriate matte for the Norwood meter.

By this simple method of using a matte for a higher than normal film-speed when I want the back-wall to appear *brighter* than the subject, or one of lower than normal speed when I want the background to appear *darker*, and then in either case taking my meter-reading in the normal way, from subject-position, and visually balancing the background-lighting to this standard, I do not have to give any more attention to lighting the background to produce the differential brightness-contrast I want between subject and background. The meter does that for me automatically, with no further thought on my part.

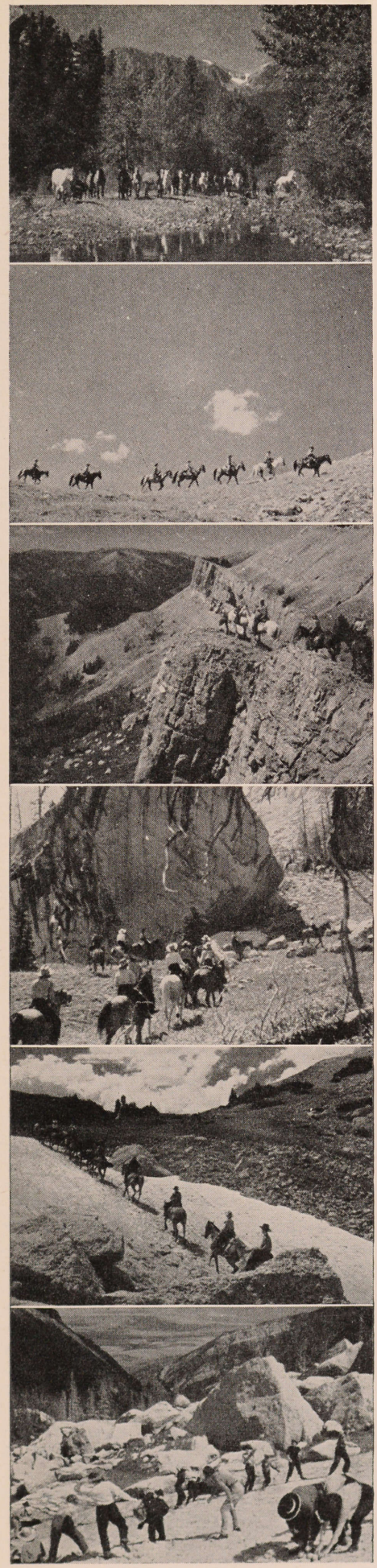
The accompanying table, set up for film of Weston 32 speed, is of assistance in selecting the correct matte. This system causes the camera lens aperture, in effect, to follow the action of the human eye which is always automatically right in this matter. The screen results of this method have been quite gratifying. END.

Aces of the Camera

(Continued from Page 296)

Garmes returned to photography. He photographed "Lydia" and "The Jungle Book" for Alexander Korda. And then did a number of films for 20th Century-Fox. Now he is under contract to Hunt Stromberg who has just loaned him to Samuel Bronston Productions to photograph "Jack London," the life story of that famous writer.

When the war is over, don't be surprised to see Garmes back in the producing field. It is this writer's guess that Garmes will never be satisfied until he gets an Academy Award for producing the best picture of the year to set alongside his photographic "Oscar."



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Using Strobo-Sync

(Continued from Page 294)

Since it is possible to use discs with a multiple of the required number of dots, those made for a four-bladed shutter can also be used for one with two blades. For the same reason the disc shown on page 402 of the September, 1942 AMERICAN CIEMATOGRAPHER which has 60, 90, and 120 bands can be used for 30, 40, and 45 bands as well. Large phonograph supply houses can furnish stroboscopic speed checkers for turntables with 77,92,180, and 216 bands that can be used for several different projector speeds. Generally these are less satisfactory, but they can be used for experimental work or for work to a fine degree, such as using 77 as an intermediary between 38 and 39.

Figure 2. Relationship between number of dots and projector speed

Dots	Speed (fps)	Dots	Speed (fps)
3-bladed shutter		4-bladed shutter	
30	13.0	40	13.0
31	13.4	41	13.3
32	13.9	42	13.7
33	14.3	43	14.0
34	14.7	44	14.3
35	15.2	45	14.6
36	15.6	46	15.0
37	16.0	47	15.3
38	16.5	48	15.6
39	16.9	49	15.9
		50	16.3
		51	16.6
		52	16.9

Figure 3. Music Cue Sheet

$D_s = 49$ dots — Music Cue Sheet "THE WHITE MOUNTAINS" — $D_m = D_s \frac{t_s}{t_m}$

1. Clock Reading		2. t_s secs.	3. Sequence	4. Record	5. St Mark	6. D_m dots	7. t_m secs.
13-18		181	Airplane view	Oxford Street		48	185
16-19		387	Mount Washington	Nutcracker Suite March	36	50	377 { 122
				Merrymakers		50	{ 255
22-46		169	Aerial Tramway	Tambourin		49	165
214	25-35	{ 182	Flume	} Mayfair		47	225
	28-37	{ 52	The Old Man and Sunset	}			
28-39			(End)				
16-11		971 ÷ 60 = 16-11					

A music cue sheet like the one shown in Figure 3 on which all information can be entered provides the most orderly method of matching the sequences to the records. While there are several different procedures, the following steps which are taken with this cue sheet may serve as a guide:

1. Select the proper stroboscopic disc from the table in Figure 2 for the approximate speed desired, and enter the number of dots (D_s) in the upper left corner of the cue sheet.

2. Using a set-up like that shown in Figure 1, project the film at the proper speed so that the dots appear to stand still. Note in column 1 the clock reading in minutes and seconds that each sequence begins (and also the end), and in column 3 a brief identification of the sequence.

3. Figure and enter in column 2 the running time in seconds (t_s) of each sequence. For accuracy check the total with the difference between the last and first clock readings in column 1.

4. For each sequence select a suitable record that requires approximately the same time to play. Enter the name in column 3 and the time in seconds (t_m) in column 7.

This is often difficult; but with a little luck and a lot of ingenuity it can usually be done so that the speed change at any one point does not exceed one frame per second. Here are some suggestions:

(a) To find appropriate selections more quickly, list suitable records in your library according to playing time, perhaps in groups of ten seconds (such as 100 to 110, 110 to 120 seconds, etc.)

(b) In addition to the regular sources of records such as Victor and Columbia, special records of mood and background music are available. One distributor is Thomas J. Valentino, Inc., 1600 Broadway, New York City, who can furnish a catalog of selections with actual playing time and mood classification. (The BC series in this catalog is not available for the duration, but the BH series can be obtained now.)

(c) Use more than one record for a long sequence, or use one record for two or more related short sequences. (Sometimes an entire short sequence can be moved to combine it properly with another.)

(d) Use only a portion of a record, if it is fairly complete in itself. (Of course when music serves as a sound effect, it can be faded in at any point, perhaps so that it will end with the sequence.) A mark can be made in soft chalk on the record to indicate where to start. A safer way is to use a numbered strip like that in Figure 4, in which case the proper starting mark is entered in column 5 of the cue sheet.

5. Using the second formula,

$$D_m = D_s \frac{t_s}{t_m}$$

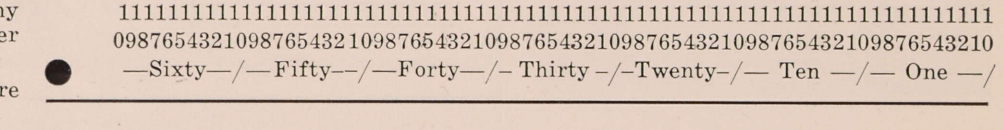
figure the number of dots for the speed that will match sequence and music, and enter in column 6 the number and, if necessary, the proper dot identification.

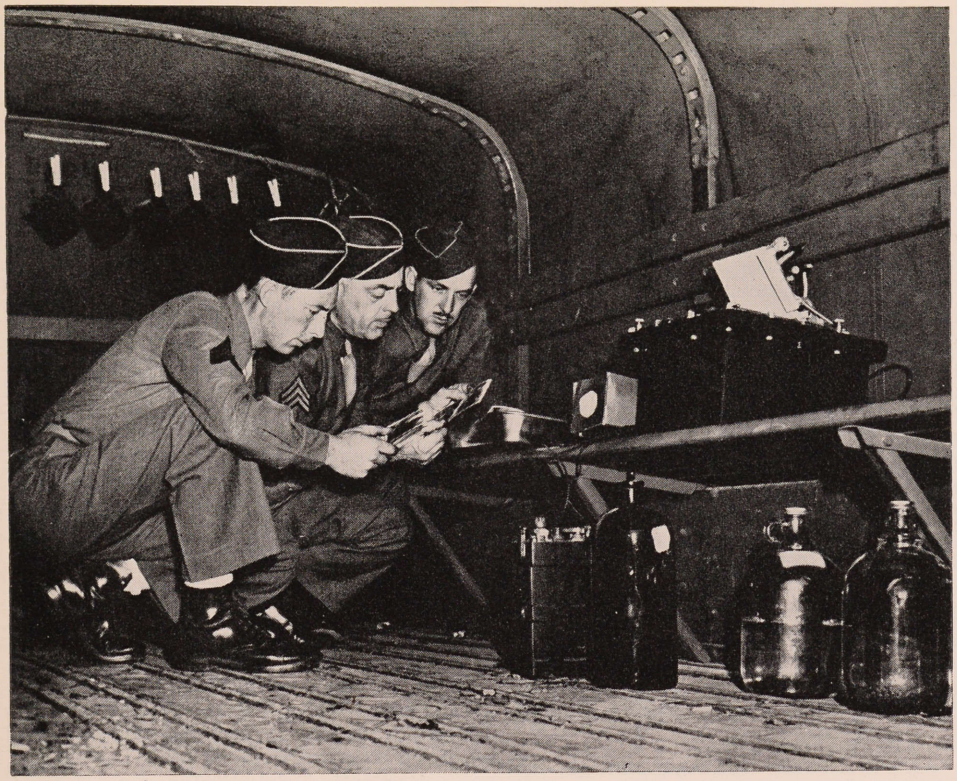
6. Project the film with the music, using the speeds given in column 6. If the music is too short, increase the figure for D_m, and if too long, decrease it.

7. With the corrections made in step 6, project the film with the music again. The music should now fit perfectly, but if not, repeat the procedure. (Columns 1, 2, and 7 can now be cut off the cue sheet if desired.)

Now that it is more diffcult to make new films, these suggestions may keep one busy for several evenings on the old ones. There is quite a thrill in projecting a film when the accompaniment fits so perfectly that it seems to have been composed especially for it. If the audience does not seem especially aware of the music, then one can be sure that it is a good score.

Figure 4. Starting Indicator





Working within a few feet of the enemy's guns during a recent maneuvers, Signal Laboratory technicians develop a set of combat pictures. Problem was to develop pictures without a generator and using only a small bulb for printer lights. Technicians shown are Sgt. Malcolm C. Bulloch, Sgt. William Claridge and Sgt. William Robertson.

THROWN on their "own" during night maneuvers, the 4th Signal Photographic Laboratory Unit recently found itself faced with the problem of developing and printing film—both motion and still—without disclosing position by use of a noisy generator.

This called for a bit of improvising. The problem had them right under the enemy guns and the pictures had to be ready for study by the high command before dawn.

Unable to use a generator, the lads were forced to substitute automobile headlight bulbs for the regular printer lights. This was necessary because they were using a storage battery in place of the generator and the automobile lamps consumed less voltage. A standard printer was used and a small watchman's electric lantern placed inside a cardboard box provided a satisfactory safelight.

The enemy would have had to walk right into the Army truck which housed the improvised laboratory in order to discover it. No light showed and there was no noise.

Throughout the night film was developed without interruption and the pictures were ready on time, completed within easy pistol range of theoretical enemy positions.

Improvision of the mobile laboratory also gave the men an opportunity to practice for an emergency. Basically, the same system would be used in the event regular laboratory equipment was destroyed in battle.

Many of the members of this Signal Photographic Unit are Hollywood technicians, formerly in the Signal Corps Enlisted Reserve.

Officers of the Unit include Captain Gordon S. Mitchell, for many years manager of the Research Council of the Academy of Motion Picture Arts and Sciences, Lt. Raymond R. Windmiller of the Williams Laboratory and Lt. August W. Klein of the Bell and Howell Company.

Enlisted men include many of Hollywood's top technicians in every branch of the motion picture industry.

Commentary Writing For Documentary Films

(Continued from Page 287)

that the story of the pilot-fish would do this: "The shark hanging in air means that, unseen, in the sea, one small fish now swims alone. A little white-blue fish with stripes on its back like peppermint candy. It is hardly over a foot in length. It is the pilot-fish which has always accompanied the shark . . . "

I made a statement in brackets when I detailed the first instance above. Here, I think, I've condensed something which any commentary writer for documentary or non-fiction films should constantly bear in mind. When our scenes show a particular, detailed operation, then commentary can usually be full because it will increase the audience's understanding of what is on the screen. It should never, however, be self-obviously banal ("This is the fisherman at work in the dory. Watch him pull up his lines. Every hook has caught a fish. Boy, there's a beauty!") On the other hand, when our scenes have a broader character, when they show, for instance, a ship sailing on the high seas or give a close-up to concentrate on the character in a face, then rarely is there need for spoken comment. Music (for the ship, a sea chanty) will effectively heighten the picture as no word ever could.

And while on the subject of when to use words, there is always a point in a given sequence where commentary should commence. This is something which can't be taught. To some people it comes intuitively; others acquire it through practice and performance; some never seem to learn it. It's not unlike knowing how to "time" a speech on the stage. Usually it does not come the moment a sequence begins. An audience likes to have the chance to grasp the scene before a voice blares out at them what it is; but after a little time most audiences begin to feel that there is somehing they want explained, and here is the psychological moment when the commentary must start.

All this seems to have brought me right back to the first and most important point I made about commentary. The best effect is obtained not through *how much* but through *how little* commentary we use, and how we can most tellingly space and place that little. Only by so doing, will we find our words worthy of the best in cinematography.

If a documentary-maker could become the invisible man he could make a documentary of the making of a documentary that would really be a documentary. It is when the documentary film-maker is working with people his film will feature—I don't mean when he is shooting them; I mean when he is living with them, getting to know them—that they usually show their most human side. It's generally something that can't be put into the finished film, especially if it's to be a straight documentary in the factual propagandistic mold. I think both Douglas Sinclair and myself carried away certain scenes from the North and from Lunenburg that, in memory, are far more vivid than much we recorded on film. We like to remember that noon we set sail on the "Flora Alberta." The captain and crew had been wetly celebrating the fine, dry day. The captain kept telling us:

"Now, you, you can snap what you like, you. You see, you . . . " his use of "you" as a name was a Lunenburg colloquialism, indicating friendliness, however hostile it sometimes sounded. " . . . you can snap what you like. . . . Fired on one of our vessels, they did, you! By God, you, if a submarine's anywhere near me, you, I'll ram the - - - - - - - - - -, you! We've a gun aboard. Bring it here, Fred."

A sailor produced a rusty shot-gun.

"See, you. We'll ram her, you, and you can snap her, you. Hope we do, you."

We hoped so too. We were, after all, going out into the submarine zone, not far, as it turned out, from where the steamer-ferry "Caribou," from the mainland to Newfoundland, was sunk a few weeks later. The captain, incidentally, never took our names until we got back to Lunenburg. If we'd sighted a submarine, there doubtless would have been two unknown documentary film-makers missing, especially as cameras are, these day, considered virtually as tools of war.

The only signs of war we saw, howeverever, were the destroyers and corvettes accompanying a convoy, through which we passed late one afternoon. "It's a hard life," was the constant refrain of the fishermen, and the convoys only make it that much harder. On foggy nights, when the little dories are at their lines, the convoys often come over the fishing grounds, and the dories are decidedly vulnerable.

But the hazards of war, submarine or convoy, do not keep the Nova Scotian fishermen at home. While the vessels of the other nations which formerly fished there are kept at home by submarine menace or Nazi occupation, the Lunenburg schooners like the "Flora Alberta" still go out to the Banks. And the attitude of the men is that of the captain: "By God, you, if a submarine's anywhere near me, I'll ram the - - - - - - - - - -, you!"

We both realized we were witnessing something that did belong to these wartime days, heroic in its own way, just as it was heroic even in peacetimes. But we could not foresee the course of wartime events. We could not know that this vessel, which we came to love and which we hope we recorded with the full sincerity of our feelings for her, should herself become a wartime casualty.

On April 22nd, 1943, the Canadian press carried a headline:

SCHOONER SLICED IN TWO
20 OUT OF CREW OF 28 TRAPPED BELOW

And the story below the headline began:

"Sliced in two by a merchantman off the coast of Nova Scotia, the schooner 'Flora Alberta,' a 'high-liner' of the Lunenburg fishing fleet, has been lost." END.

TRADE NOTES

Western Electric Official to Retire in September

Harry B. Gilmore, secretary of the Western Electric Company, has announced he will retire from business September first, after 41 years of service with the company. Succeeding Mr. Gilmore as secretary will be Norman R. Frame, who has served as assistant secretary. Mr. Frame has been with the company 20 years.

J. Harold Booth Bell and Howell Executive

Bell & Howell Company, manufacturers of motion picture equipment and optical devices, has just announced the appointment of J. Harold Booth as Vice-President in charge of War Negotiations, War Expediting, Employee Training, Subcontracting, Personnel and Public Relations, Industrial Relations, Sales, Service and Advertising.

Mr. Booth entered the service of Bell & Howell Company in 1927, and since 1938 has been General Sales Manager in charge of service and advertising.

Negro Film Completed

Completion of the feature film, "We've Come a Long, Long Way," was announced this month by Negro Marches On, Inc., producers of the film. This picture is a cavalcade of the Negro race, and was directed by Jack Goldberg, for twenty years a leader in the production and creation of all-Negro films.

This Is War

Due to wartime shortages in materials, various and sundry devices have been developed in the Hollywood film studios. One of the most interesting is a contraption that picks up bent nails and straightens them for use. Before the war countless pounds of nails were lost, for no one thought of picking up a dropped or bent nail. But today it is different.

Editorially Speaking . . .

FATE plays peculiar tricks on us. A few days ago I had no idea of ever editing this magazine again. I lunched with Bill Stull, the editor, and promised him I would write a piece for the August issue. And now, here I am sitting at Bill's desk getting the magazine out, and Bill has passed on. Such is life.

I say "Bill's desk." Actually, this desk was bought for me away back in 1929 when I became editor of the Cinematographer for two and a half years. To those subscribers who read the magazine then I send greetings; to those who do not know me I say "Hello."

It has always been my contention that a magazine should contain the material and stories that the readers desire. It is my contention, also, that unless the readers tell us what they want, we just have to go on guessing. Sometimes we are lucky and please them; sometimes we miss the mark. Here and now, the readers of the Cinematographer are requested to send in suggestions as to story material you would like to see. We will try to give you what you want, if you ask for it.

•

LATELY we've been reading in the trade-papers, and even to some extent in the daily newspapers, of how essential motion picture entertainment is proving to our soldiers at the fighting fronts. This is a fact in which the motion picture industry can rightfully take great pride, and one which should by all means be brought home to the American people and to the Nation's policy and law makers in Washington. We can't help wondering, therefore, why the motion picture industry *as a whole* doesn't arrange to send camera-crews out with light, portable, single-system sound-and-picture cameras (they could even be 16mm., if the utmost portability be needed) to the fighting fronts, to bring back a genuinely documentary record —unembellished by any "Hollywood touches"—of what motion pictures are actually doing for Johnny Doughboy at the front, and to record the actual, un-scripted comments of servicemen

THE other day I heard an amateur complaining quite bitterly over the fact that he couldn't buy equipment he desired to take on his vacation. That man doesn't yet realize that we are fighting a global war and that the manufacturers of camera equipment are in there pitching to provide equipment for the fighting men who are out there in the thick of the battle to save this world so that in future years amateurs will again be able to make all the pictures they wish. Our hats are off to the photographic manufacturers for the magnificent way they have done their bit. So, let's stop complaining—and buy more bonds.

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WONDER what has become of the one-time overworked term, "camera angles." You never hear it any more, and with its passing motion picture photography has reached heights of perfection once never dreamed of. Whereas at one time good photography was the type that made audiences gasp with sheer amazement, today the finest photography on the screen is that which makes an audience forget they are looking at a picture. Directors of Photography have developed their art to a point where the picture becomes a reality. That is photographic art.

•

WHAT are you doing to help win the war? Have you ever stopped to ask yourself that question?

Just because you are paying your taxes uncomplainingly and are investing ten per cent of your pay check in war bonds doesn't mean that you are doing enough. When making that deposit in your savings account have you ever thought of those boys of ours wallowing in the mud and slime of the islands of the South Pacific, burrowing like wild animals in the mud to escape the bullet of a Jap sniper? Or have you visualized other boys over in Europe riding out through the darkness of the night in bombers, wondering which of them will come back and which will go down in flames?

The next time you take a hundred dollars to the bank to put away in your savings account take half of it and buy an extra war bond. Then maybe our boys will be able to come back sooner and in greater numbers. They aren't asking for pay increases or for luxuries. They are only asking for more guns and tanks and planes and bullets. Let's give them those things.

BUY MORE WAR BONDS

Club Would Exploit Film Source-Books, Pix Simultaneously

George Macy, New York book publisher and head of the Limited Editions Club, the Heritage Club and the Readers Club, is in Hollywood for the purpose of forming a revolutionary new type of book club in which he plans to publish only books that have been used in motion pictures.

Macy's idea is to bring his books off the press simultaneously with the release of the pictures that have been made from the books, thus bringing about an exploitation tieup for both the pictures and books that will publicize the pictures in thousands of spots that are not ordinarily reached in picture campaigns.

"My new club will not cost the picture producers a single penny," explains Macy. "I have nothing to sell them, but those who cooperate will have the advantage of the announcement that the book they are filming has been selected as one to be published for the members of 'The Modern Masterpieces Book Club,' and will have club members all over America reading the book at the time when it will suggest to them that they ought to see the picture."

Macy points out that he has 177,500 members in his Readers Club, and expects at least 100,000 to enroll in the new club.

Sings to Millions

Estimated that Frances Langford has sung before a total of five million servicemen durig her costat roud of army shows as Bob Hope's chanteuse.

Argentine Raw Film Situation Serious

Buenos Aires.—Argentina, which asked for 42,000,000 feet of raw film stock and received limited allotment of 7,200,000 feet for 1943, figures that reversal of governmental policies from original stand of pro-Axis will gain consideration for a substantial increase in footage available.

Local film industry, in lodging strong complaints against inequitable division of film between various producers and distributors—with charges that many newcomers and opportunists were horning in to use quota of raw stock as basis for promoting new companies—has been able to secure governmental consideration for a complete re-shuffle. Unless new government can secure concession from the United States for substantial increase of film footage for the year, local industry will be in hard straits.

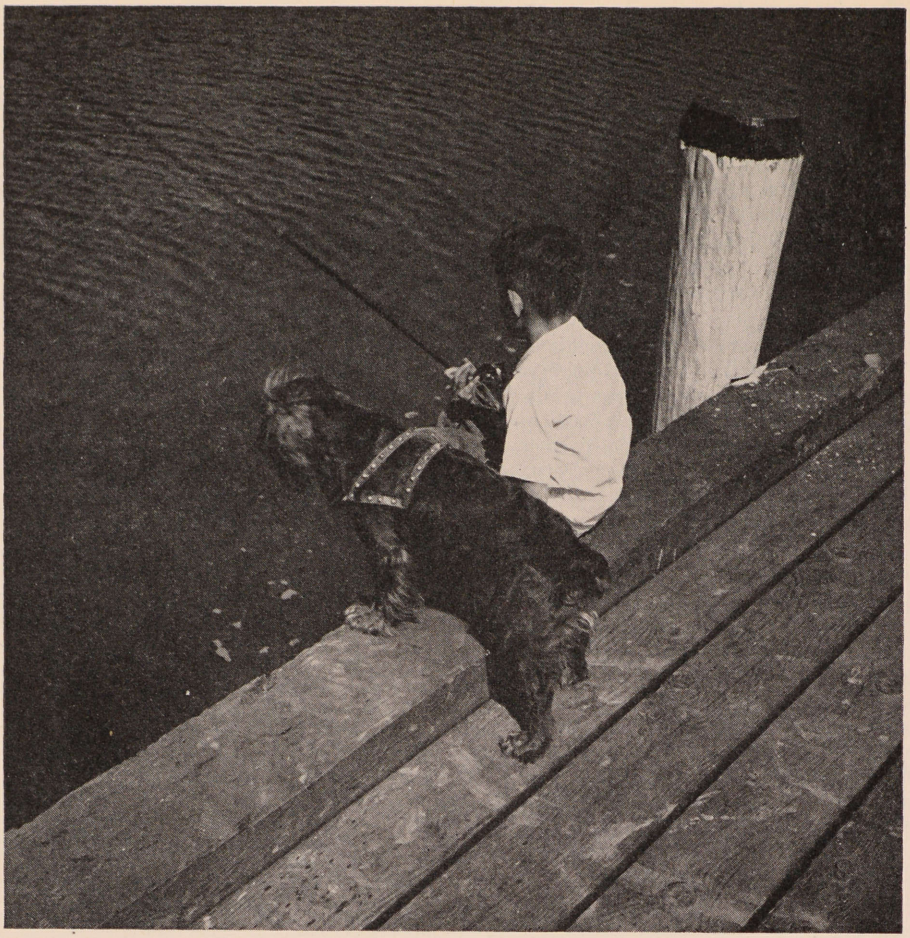
Wallace Snaps Sicily

Sergeant Bob Wallace, former Hollywood magazine photographer, directed one of the three crews credited with the successful 'photographic' invasion of Sicily for American newspapers.

Studio Cuts Truck Mileage By 20 Pct.

RKO, by utilizing locations a short distance from the studio and building exteriors on the stages at Pathe instead of at the ranch, has cut its truck mileage 20 per cent for the first six months of 1943, as compared to the mileage of the same period during the previous year.

In 1942, RKO's trucks traveled 80,526 miles in the period from Jan. 1 to June 30, while in 1943 this figure dropped to 59,654 for the corresponding period.



A boy and his dog enjoy summer

So does a girl and her dog.

FILMOSOUND LIBRARY'S FEATURE-LENGTH HOME MOVIE OF THE MONTH

PARIS CALLING, Universal's timely filming of intrigue and high adventure in the French underground movement, has just been released for showing at approved non-theatrical locations, through the Filmosound Library! It's a great wartime thriller that will keep you and your friends enthralled from start to finish.

Get ***Paris Calling*** for your next feature . . . and *then* for fun and spice, choose a group of shorter Filmosound Library films to complete your program. You'll find almost any sort of movie you can think of in this great collection—cartoons, sport shorts, travel, battle films, OCD subjects, first aid training . . . and on and on through thousands of titles.

Plan the movie program you've always wanted to see . . . Filmosound Library has the very films you'll want.

Put Your Projector to Work for Victory

Your projector is a victory weapon . . . and so is every other projector in your town whether owned by school, club, or industry. For these projectors can help train warworkers and teach first aiders and Civilian Defense groups. Seek out these idle projectors. Team them up with Filmosound Library's extensive collection of special-purpose training films. Put them to work for Victory. Projectors are not available now for civilian purchase, yet there need be no shortage if all civilian equipment is shared when the need is greatest.

There's No Shortage of Expert Servicing

Don't be satisfied with less than *perfect* projector efficiency. Bell & Howell factory experts inspect, adjust, repair, and replace until your Filmo projector is again in factory-perfect working order. Your dealer can tell you the standard costs of repairs your Filmo may need and will help you pack it for safe shipment to the factory.

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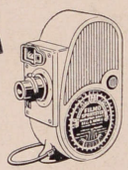
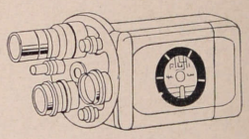
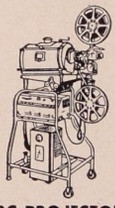


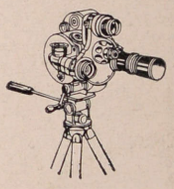
FILMO SPORTSTER—Popular 8mm. camera with F2.5 lens. Four speeds, including slow motion. Single-frame control. Film footage dial resets automatically. Sportster is the economical precision "8".



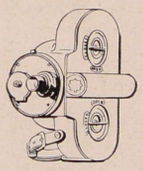
FILMO AUTO MASTER—16mm. magazine loader with 3-lens turret head (which mounts finder objectives, too). Its four speeds include sound film speed and slow motion—has single-frame control.



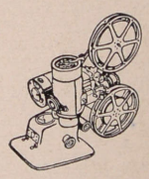
FILMOARC PROJECTOR—Engineered throughout as an arc projector, this 16mm. model has ample light for large auditoriums. High output amplifier and dynamic twin speakers are included. Shows sound or silent film.



EYEMO CAMERA—The "tailor-made" 35mm. camera. Seven standard models plus a complete set of precision-engineered accessories fit Eyemo to any task from quick field work to complex studio projects.



FILMO 70E CAMERA—Has many features of more expensive Filmo models. Single-lens seat provides for quick changes from standard to special-purpose lenses. Accurate spyglass viewfinder. Four speeds, including sound and slow motion, with accurate speed governor.



FILMO DIPLOMAT PROJECTOR—This fine 750-watt machine takes up to 400 feet of 16mm. film. Famous B&H all-gear drive and power rewind. F1.6 lens and magnilite condenser which steps up screen brilliance. Shows sound or silent film—though the sound is not heard.

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